DOCUMENT RESUME

ED 224 922 CE 034 665

AUTHOR	Treichel, Janet M., Ed.
TITLE	Least Restrictive Environment. Policy Paper Series: Document 2.
INSTITUTION	Illinois Univ., Urbana. Leadership Training Inst./Vocational and Special Education.
SPONS AGENCY	Office of Special Education and Rehabilitative Services (ED), Washington, DC. Div. of Personnel Preparation.
PUB DATE	May 82
GRANT	G007900952
NOTE	120p.
PUB TYPE	Collected Works - Serials (022) -- Viewpoints (120)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Advisory Committees; Advocacy; Cooperative Programs; Coordination; *Disabilities; Disadvantaged; *Educational Policy; Employment Programs; *Faculty Development; Federal Programs; Handicap Identification; Limited English Speaking; *Mainstreaming; *Needs Assessment; Position Papers; School Business Relationship; School Community Relationship; School Policy; Secondary Education; Special Education; Student Evaluation; Student Placement; *Vocational Education; Vocational Education Teachers

ABSTRACT

Six position papers address issues and identify relevant processes and policies relating to the least restrictive environment (LRE). The first paper highlights research findings concerning local policies relative to identification, assessment, and placement of handicapped, disadvantaged, and limited English-proficient students in vocational education programs. Other sections discuss typical coordination issues between Comprehensive Employment and Training Act programs, vocational education, and mainstreaming policies and practices. Addressed to regular and special educators, the second paper emphasizes some realistic and practical factors involved in the academic and social integration of handicapped children. The third paper draws implications for vocational education personnel development from the LRE policy. The fourth paper reviews the literature addressing the least restrictive alternative in vocational education. Experiences in delivering vocational services to teachers of handicapped students are also described. Recommendations are made for planning, staff development, curriculum, and instructional materials. The fifth paper considers the importance of advisory and advocacy input regarding the LRE. The sixth paper focuses on needs assessment pertaining to the LRE, the extent to which LRE needs assessment data are incorporated into statewide evaluation and information systems, and the interagency linkages necessary for comprehensively assessing vocational education needs relative to LRE. (YLB)

ED224922

Least Restrictive Environment

Policy Paper Series: Document 2

Edited by

Janet M. Treichel
Training and Dissemination Coordinator
Leadership Training Institute/
Vocational and Special Education
University of Illinois
at Urbana-Champaign

A Publication of the
**LEADERSHIP TRAINING INSTITUTE/
VOCATIONAL AND SPECIAL EDUCATION**

Office of Career Development
for Special Populations
College of Education
University of Illinois
at Urbana-Champaign

Sponsored by

Division of Personnel Preparation
Office of Special Education
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FOREWORD

The mid and late 1970s were characterized by the enactment of new major legislative mandates in the education and employment of handicapped individuals. Public Law 94-142 and Sections 503 and 504 of the Rehabilitation Act of 1973 have had profound effects upon educators and employers alike. In response to these mandates, a number of diverse programming approaches and policies have been implemented by vocational and special educators and vocational rehabilitation personnel at the state and local levels.

The Leadership Training Institute/Vocational and Special Education was established to assist state leadership personnel in improving and expanding vocational education opportunities for handicapped learners. The project is supported by a grant from the Division of Personnel Preparation, Office of Special Education, U.S. Department of Education. Through the project, emerging legislative issues and priorities pertaining to vocational education for handicapped learners have been addressed in regional leadership training institutes. Eight institutes have been conducted throughout the nation addressing a variety of key issues.

This series of policy papers on vocational education and the least restrictive environment (LRE) is a product of the second Leadership Training Institute which was held in Minneapolis, Minnesota. A comprehensive literature review and a small scale needs assessment survey identified a number of major concerns in this area such as personnel development, needs assessment, instruction, consumer and advocacy involvement, and policy analysis.

Several recognized leaders in the field of vocational education and special education were invited to prepare papers addressing the major concerns that had been identified. In addition, other papers which addressed key issues relating to least restrictive environment were identified and permission to reprint obtained. It is a pleasure to share these insightful and cogent policy papers through the production of this volume. The LTI is greatly indebted to the authors for their excellent contributions: Maynard C. Reynolds, University of Minnesota; Lloyd W. Tindall and John J. Gugerty, University of Wisconsin-Madison; Libby Goodman and Hinda Miller, School District of Philadelphia; Carol VanDeusen Lukas, Vernon L. Beuke, Nancy Brigham, Georgia S. Glick, and John P. Breen, Cornell University; Jane A. Razeghi, American Coalition of Citizens with Disabilities; and James P. Greenan, University of Illinois.

The LTI also expresses appreciation to the National Center for Research in Vocational Education, Journal of Research and Development in Education, and Abt Associates for permission to reprint papers, or portions thereof, prepared for their agencies' publications.

Dr. Janet Treichel, Training and Dissemination Coordinator, served as editor of this policy paper series, and has prepared an exceptionally scholarly volume. R. Brian Cobb, graduate research assistant, provided valuable assistance in this endeavor. A special note of appreciation is extended to Ms. Alicia Bollman and Ms. June Chambliss for their assistance in typing and coordinating the preparation of the manuscript.

L. Allen Phelps, Director
Leadership Training Institute/
Vocational and Special Education

PREFACE

At the cornerstone of the landmark Education for All Handicapped Children Act, P.L. 94-142, is the concept of "free appropriate public education." While it is relatively easy to define and understand the conditions under which "free" and "public" education is provided, confidence in what is or is not "appropriate" becomes much more problematic. Congressional legislators attempted to assist LEA personnel with their difficulties by introducing the concept of a cascade or continuum of services along which handicapped children might be placed, depending upon the nature and severity of the handicapping condition. The regulations then become quite specific in providing directions for LEAs in the use of this continuum of services:

> Each public agency shall insure: (1) That to the maximum extent appropriate, handicapped children, including children in public and private institutions or other care facilities, are educated with children who are not handicapped, and (2) That special classes, separate schooling, or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (Federal Register, August 23, 1977, p. 42497)

This concept of least restrictive placement or environment (LRE) is grounded in federal law and applies to all aspects of a handicapped child's education, including vocational education. Thus, when the regulations implementing the Education Amendments of 1976, P.L. 94-482, became public just seven weeks after the P.L. 94-142 regulations, the LRE criterion was reinforced in vocational education as well:

> The State shall use these funds to the maximum extent possible to assist handicapped persons to participate in regular vocational education programs. (Federal Register, October 3, 1977, p. 53841)

Although some disagreement may exist among special educators as to the propriety of specific placements along the least restrictive continuum, there seems to be virtual unanimity in the value those concerned with special education attach to the LRE concept. It is bound to shape the manner in which school districts treat their handicapped children for many years to come.

Ensuring compliance with the LRE mandate is a complex and confusing process. Federal and state policies, along with instructional, administrative, and educational finance issues at the local level may interact in indecipherable ways, making the duties of vocational/special educators especially troublesome. The policy papers in this volume are offered in an attempt to clarify issues and identify relevant processes and policies. The reader will find information in the areas of needs assessment, personnel development, instruction, advocacy group involvement, and policy analysis. It is our hope that these papers will be found useful in unraveling the LRE puzzle, and making it more viable for vocational/special education practitioners.

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Implementation of the Education Amendments of 1976: A Study of State and Local Compliance and Evaluation Practices

Carol VanDeusen Lukas
Vernon L. Beuke
Nancy Brigham
Georgia S. Glick
John P. Breen

In September of 1978, Abt Associates Inc., Cambridge, Massachusetts, was awarded one of six major extramural contracts from the National Institute of Education as part of the federally-mandated study of the Education Amendments of 1976 (P.L. 94-482). Specifically, Abt Associates was contracted to study state and local compliance and evaluation practices in vocational education that have evolved as a result of P.L. 94-482. The study had three major objectives:

- to describe state and local implementation of the 1976 Education Amendments and the consequences of federally mandated vocational education policy and practices on state and local vocational education activitiy;
- to understand the ways in which state and local conditions affect the implementation of federal vocational education policy; and
- to recommend ways in which greater compliance with federal legislative intent can be achieved.

The findings of this study are based on data collected through extensive on-site interviews during the 1979-1980 school year in 15 state departments of vocational education, 16 secondary education institutions, 12 post-

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*Adapted and reprinted with permission from the Implementation of the Education Amendments of 1976: A Study of State and Local Compliance and Evaluation Practices--Final Report, (National Institute of Education). Cambridge, MA: Abt Associates, Inc., December 1980 (AAI Report No. 80-113).

secondary education institutions, and 10 CETA prime sponsor organizations. The interview data were supplemented by an analysis of extensive documents in each of the 15 states visited and a more limited set of documents from 41 additional states and territories.

It is important for the reader to understand that the findings outlined below represent only a portion of the final report that Abt Associates delivered to the National Institute of Education (NIE). This paper highlights the conclusions of the research concerning local policies relative to identification, assessment, and placement of handicapped, disadvantaged and limited English-proficient students in vocational education programs. Additionally, the reader will find a discussion of typical coordination issues between CETA and vocational education, and a section concerned specifically with mainstreaming policies and practices.

Local Identification, Assessment, and Placement Policies

Handicapped

The Education of the Handicapped Act, as amended by the Education for All Handicapped Children Act of 1975 (commonly referred to as P.L. 94-142), has had a strong influence on the definition, identification, and assessment of needs of handicapped students at the secondary level. In most states and school districts in the study sample, the P.L. 94-142 definition of handicap is used widely in practice. Moreover, in some places, the presence of an Individualized Education Plan (IEP), the procedure required by P.L. 94-142, is the sole criterion by which students in vocational education are judged to be handicapped; without an IEP, a student who needs special assistance in order to succeed in vocational education is disadvantaged, not handicapped. In one state, according to state agency staff, some

small schools do not have an IEP process and therefore do not claim VEA funds under the handicapped set-aside but only under the disadvantaged set-aside (even though some of the so-called disadvantaged students would be defined as handicapped students elsewhere). Most states also use the P.L. 94-142 process to identify handicaps, assess the students' needs, and develop an educational plan for students in vocational education. Because of the prominence of P.L. 94-142, the identification, assessment, and planning processes for handicapped students in vocational education tend to be systematic and similar at the secondary level across districts and states. The reliance on P.L. 94-142 also causes problems in some districts because it specified no formal role for vocational educators in the IEP process. The relationship between vocational educators and special educators will be discussed further in the section addressing coordination.

At the postsecondary level, the process of identifying handicapped students and assessing their needs is more variable, and in many cases, more problematic than at the secondary level because postsecondary institutions are not responsible for implementing P.L. 94-142. A few postsecondary institutions have elaborate diagnostic intake centers and programs of individualized instruction for all students. In these schools, there is no special difficulty in assessing the needs of handicapped students--or, reportedly, in providing additional services--though it sometimes requires extra effort to label them according to federal categories. More frequently, however, postsecondary administrators argue that they have difficulty in identifying and assessing the needs of handicapped students because they do not have a team of special educators and an IEP process in place. Some schools claim to serve these students; they just do not claim reimbursement for them. In other cases, there seems to be more emphasis on physical than on mental

handicaps. In several postsecondary institutions in the sample, questions about services for handicapped students in vocational education were answered entirely in terms of Section 504 access issues.

Disadvantaged

Despite the fact that all states include both economic and academic criteria in their formal definitions of a disadvantaged student in vocational education, in practice the majority of states and localities place most emphasis on the academic. In a few cases, respondents interpreted economic disadvantage literally rather than as a proxy for academic disadvantage. Thus, they felt that there was little that the school could do to help ameliorate the poverty status of its students in a vocational education program. One local vocational educator, for example, said that beyond occasionally purchasing class materials for poor students, the school could not alleviate economic problems. At the state level, one administrator argued that there were no economically disadvantaged students in vocational education at the secondary level in his state because the schools charged no fees. In other cases, administrators said that economic information is privileged and therefore hard to obtain. As a result, it is not considered a good criterion for disadvantage.

When an economic definition of disadvantage was employed by vocational educators in sample districts, it was generally based on an existing measure of poverty, such as recipients of AFDC eligibility for the federal school lunch program, or eligibility for ESEA Title I.

The operational definition of academic disadvantage in vocational education is more variable than the economic, both among and within states. In most cases, the definition includes a specific cutoff level keyed to standardized achievement tests--reading two years below grade level, for example. In

other cases, disadvantage is defined broadly to include any student who is "not making the grade" in a regular vocational program. Students who are at great risk of dropping out of school are frequently defined as a separate category of academically disadvantaged students because their problems and attitudes toward school are usually more severe than students who are having more limited academic problems.

The means by which disadvantaged students are identified and their needs assessed vary along similar dimensions. In some cases, the procedure is very individualized; disadvantaged students are identified by teachers or occasionally by service agencies outside the school and referred for remedial assistance in a particular course. With increasing frequency, however, schools are becoming more systematic in identifying academic disadvantage. In one small school district which was visited, the high school administers the California Achievement Test (CAT) in reading and math each spring to identify students in need of assistance. Special services are then provided starting with the most needy students at the bottom of the list and moving up the list as long as money is available. One state widely uses the Individualized Manpower Training System (IMTS) to diagnose and remediate problems of vocational education students in basic skills areas. Another state in the sample and few individual districts currently prepare a formal educational plan for disadvantaged students in vocational education, modeled after the IEP for special education.

Limited English-Proficiency

The definitions and identification procedures for students with limited proficiency in English are the most variable and least well-developed of the three special needs groups studied. None of the states in the sample has a systematic statewide effort to serve the limited English-proficient as they do

the handicapped and disadvantaged. In some districts, however, limited English-proficient students are served with local funds or on an individual basis with funds from the disadvantaged set-aside (without being separately labeled as LEP). A few of the states have active projects at the state level to promote vocational education for this group, but they are still in their early stages. Other states, including some with large non English-speaking populations, are doing little or nothing at the state level to encourage or assist the schools in serving this population.

Several reasons are given for this lack of attention. In part, it stems from lack of experience and information. State officials in one state stated that they do not even have data on the number of limited English-speaking people aged 15-24 in the state. A state agency staff member in another state said more generally that his agency is having a difficult time finding and serving this group; in that state, no local education agencies had submitted applications to seek funding for LEPs. A few states are attempting to remedy their lack of information by conducting needs assessment. The lack of attention to this population also stems in a few instances from a resistance to serving it. In one state with a large non-English-speaking population, respondents stated that the problem was too big a deal with both in terms of the number of people involved and because many of the people are illegal aliens. Moreover, a few individuals stated that they felt that students should learn English before going into vocational programs.

Coordination Among Local Service Delivery Agents

Because special needs populations are served--or are eligible to be served--by a range of programs and organizations, it is important for quality service delivery and (in keeping with goals of coordinated and unduplicated

service delivery in the Vocational Education Act) for these different programs and organizations to work together. Among the coordination issues more frequently mentioned by local administrators in the sample were: (a) cooperation between vocational and special educators; (b) cooperation between vocational educators and CETA prime sponsors; and (c) coordination between home high schools and area vocational centers. Since the cooperation between vocational educators and CETA prime sponsors in serving disadvantaged students is discussed in the chapter on CETA and vocational education coordination (refer to complete report), it is not addressed here, although two points are worthy of note. First, some local respondents reported that they would rather use CETA money than VEA money to serve the disadvantaged because they are fully reimbursed by CETA and not by the VEA disadvantaged set-aside. Second, there is some concern over the fact that CETA students typically receive stipends, while disadvantaged students under VEA do not.* Coordination with Title I of the Elementary and Secondary Education Act was usually not mentioned by the vocational educators with whom we spoke, probably because the Title I target schools and students are quite different than those who qualify for disadvantaged funds under the Vocational Education Act.** Title I is by regulation limited to those schools within a district having a higher-than-average concentration of poor children. Area vocational schools and vocational high schools often serve a mixed population and therefore do not qualify for Title I funds.

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*While stipends are allowed under subparts of VEA, such funds must come out of the basic grant and many districts are reluctant to use them for this purpose.

**This may change as a result of the 1978 Education Amendments and proposed regulations for Title I.

Furthermore, until very recently, a large proportion of Title I funds were directed to the elementary level. Thus, this section examines only issues of cooperation between special educators and vocational educators and between sending schools and area vocational schools. Both are focused at the secondary level.

Despite the reliance in many places on the IEP process for identifying the handicapped students for vocational education, the actual coordination between special educators and vocational educators in developing a plan for and then teaching handicapped students varies. In the past, a major point of contention in many school districts was the extent of participation of vocational educators in the IEP process. The frequent complaint was that vocational educators were not involved and that the special educators and other members of a student's diagnostic and planning team were making assignments to vocational education without consulting vocational educators. As a result, vocational educators argued, vocational education was being used as a dumping ground; assignments were being made without an adequate assessment of student capabilities and interests in the assigned occupational area.

The problems between vocational and special educators appear to stem from two factors: (a) each group's lack of knowledge of the others' field of expertise and (b) the absence of a formal procedure for involving vocational education in the IEP process. Many vocational educators do not understand the problems of special education students and have no strategies for teaching them. As a result, they are reluctant to have them in their classes. On the other hand, because special educators do not typically understand the components of and skills required for different occupations, they may place students in programs inappropriate to their interests and capabilities.

A number of states in the study sample are attempting to address this problem with state agency-sponsored inservice training including sensitivity and awareness sessions. State colleges and universities are beginning to establish courses which deal with special education and vocational education. Some states are instituting joint credentialing processes.

The second factor which leads to difficulties in coordination is the absence of a formal procedure for involving vocational educators in the IEP process. Where good coordination has occurred, it has tended to result from characteristics of the local district: the personalities of the individuals involved, the structure of the district, and the attitudes in the school toward both special education and vocational education. Fortunately, many states in the sample have issued or are developing formal policies on the involvement of vocational educators in the IEP process by defining each party's roles and responsibilities. As these are put into practice, the dependence of coordination on local factors which vary considerably among districts will hopefully diminish.

The problem of coordination between the home and school and the area school was heard less frequently among respondents than concern about coordination between vocational and special education; but where coordination did fail, it posed serious problems for academically disadvantaged as well as handicapped students. In a few districts in the sample, respondents said that students were sent to the area school with no mention of special needs, even though those needs were recognized in the sending school. The area school was then left to discover which students needed assistance, a process which sometimes took months during which time the student fell further behind in his/her work. In these situations, some respondents believed that the sending school uses the area school as a dumping ground for its problem

students. Area school staff complained that they did not have the special education resources needed to do their own independent assessments. They also feared that if the enrollment of special needs students in the area school was too high, regular students would not attend.

Mainstreaming

The 1976 Education Amendments place emphasis on modifying existing vocational programs for special needs students rather than creating separate programs. The rationale for this emphasis was the Senate committee's concern with the Government Accounting Office (GAO) finding that vocational education administrators were taking literally the requirement that VEA set-aside funds be used for students who cannot succeed in regular vocational education, and as a result automatically segregating students. P.L. 94-142 also mandates that services be provided in the least restrictive environment. The term "least restrictive environment" is frequently interpreted as a mandate to mainstream students, that is, to educate them in a class with regular students rather than in a separate class.

In contrast with these policies, the regulations which interpret the 1976 Amendments contain an apparent disincentive to mainstreaming in the rules governing the uses of the handicapped and disadvantaged set-asides. As described earlier, when special needs students are mainstreamed, districts can apply federal set-aside funds only to the costs of providing additional services. However, when special needs students are instructed in separate, specialized classes (i.e., with no non-handicapped and no non-disadvantaged students) districts can apply the set-asides against the full cost of the program.

As stated earlier, it was beyond the scope of this study to analyze systematically the use of federal set-aside funds to determine if the different

matching policies did act as a disincentive to mainstreaming. It was also beyond the scope of the study to analyze the enrollments of special needs students in separate-versus-mainstreamed vocational education classes to determine what proportions and types of special needs students are being mainstreamed. However, from the accounts of the vocational educators in the study sample, the practice of serving special populations with supplementary and supportive services in regular vocational programs--with the exception of programs for the severaly mentally retarded--is reportedly increasing.

There is no evidence that the policy of reimbursing separate programs at a higher rate has served as a conscious disincentive to mainstreaming; no one spoke of this policy as creating a conflict or of deciding to create separate needs classes, particularly to obtain a higher level of federal funding. To the contrary, state administrators report moving away from separate programs, at least among those special needs programs defined and/or sponsored at the state level. In a number of states in the sample, the set-asides and, in some cases, Subpart 4 money are used to fund similar programs across the state. In the past, the majority of these state-defined programs were separate, class-size projects. Over the past few years, these separate programs have become less prominent. They have not been eliminated, but no longer do they represent the major use of VEA handicapped and disadvantaged funds in these states. Many states leave the definition of the use of the set-asides to locals. Others structure the distribution of funds in a way which lends itself to mainstreaming. One state, for example, uses the majority of its set-asides for supplementary services. The program is targeted to individual determinations of what special services are needed; examples of services offered include special equipment, tutors, and inter-

preters. Another state, which distributes its VEA funds on the basis of claims for reimbursement tied to individual students, distributes the major portion of its set-asides by reimbursing schools at a higher rate for special needs students. This approach of claiming reimbursement for specific students would appear to lend itself to special populations who are enrolled in regular programs but require additional services.

The question of mainstreamed or separate vocational classes appears to be a larger issue with handicapped than disadvantaged students. Disadvantaged students are reportedly served most frequently in regular programs supplemented with remedial or tutorial instruction. The one situation in which separate programs for disadvantaged students predominate are programs for students at great risk of dropping out of school. These students are frequently enrolled in a separate, highly structured work experience program. The rationale for organizing separate programs for these students is that the programs offer the last hope of keeping the student in school; potential dropouts are often so disaffected with the regular school programs that the regular programs contain no incentives for the students to continue.

The question of mainstreaming is also a bigger issue for mentally than physically handicapped students. With the physically handicapped, often all that is required to enable the student to succeed is the modification of equipment or, in the case of blind or deaf students, the provision of a reader or interpreter. While vocational educators still must deal with questions of the expense of the modifications and fear among instructors for the students' safety--both of which are significant barriers to serving physically handicapped students in any vocational programs, mainstreamed or separate--there seems to be less concern among the instructors about the students' being prepared for the course or about the instructors' ability to each them

once they are in the course than there is with mentally handicapped students.

With mentally handicapped students, special educators as well as vocational educators feel that some students have such severe handicaps that they cannot succeed in a regular classroom, even with added support services. A number of schools visited are attempting to address the issue of mainstreaming for mentally handicapped students through adaptive or transitional classes. Typically, special education students who have been in separate classes for their academic education are given their first vocational course with that same, separate group. The rationale for this approach is that the students need to be moved gradually to regular programs; if they are suddenly plunged into a course with regular students after having been in classes with only other special education students, it is argued, they will stand little chance of success. Thus, the first course is usually exploratory. Students who find an area in which they are interested and competent are then moved to a regular class on a trial basis. If they succeed, they remain in the class. If they do not, they move back to the transitional class to look for another area in which they might succeed. Students who do not progress to a regular program are trained in marketable skills in the separate class.

Thus, vocational educators report movement toward providing special services to handicapped and disadvantaged students in regular vocational programs. They acknowledge, however, that there are still barriers to mainstreaming, including resistance among a number of vocational educators. One concern is that handicapped students are placed in vocational courses indiscriminantly and often are ill-prepared and unsuited for the skills required for the course. As previously mentioned, vocational educators fear

that students will injure themselves. Vocational educators also argue that when a number of handicapped students are assigned to a single class without additional assistance to the instructor, the instructor is unreasonably burdened, and the regular students neglected. Finally, they argue that handicapped and disadvantaged students are hard to place in jobs than other vocational education students because employers are reluctant to hire them. In a system which rewards high placement rates, this last argument may signal the instructors' concerns with their programs' perceived success rate as much as their concern for the welfare of the students in terms of probably job success.

Mainstreaming: How Teachers Can Make It Work

Libby Goodman
and
Hinda Miller
School District of Philadelphia

The LRE requirement of P.L. 94-142 which mandates normalization of education for the handicapped has had a far reaching effect. Daily, increasing numbers of students and teachers from the ranks of special and regular education are becoming participants in the mainstreaming experience.

The educational community has, for the most part, accepted the fact that mildly to moderately impaired children will receive some if not all of their educational programming in regular classrooms in the company of their nonhandicapped peers.** However, as teachers try to cope with new educational priorities the absence of a clear definition of what mainstreaming is to be and the lack of definitive guidelines for the implementation of nonrestrictive educational programs creates obstacles to the mainstreaming endeavor. Many regular education teachers find few resources to assist in the management of the learning and behavioral problems of the handicapped student. Their colleagues in special education share these same concerns and often are reluctant to relinquish their youngsters to the uncertainties of the regular education program--the mainstream. While this attitude may appear overly protective, there is ample justification for it.

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**The severely impaired and sensorily or physically handicapped are not to be excluded; and such youngsters are also being mainstreamed to the extent possible, often with remarkable results.

Regarding the current trend toward mainstreaming, Kaufman, Gottlieb, Agard & Kubic (1975) stress that "the emphasis to date has been on administrative arrangements more than on instructional or curricular matters." As a consequence, we find that mainstreaming is a philosophical concept based upon legal and social values but with little practical value (Keogh and Levitt, 1976). If the ideal of mainstreaming is to be achieved for those students and teachers who are already part of the mainstreaming experiment and for those who will follow in the future, we must begin to address the practical day-to-day educational concerns of the classroom teacher. Therefore, in the remainder of this article we will tread lightly on the theoretical issues and instead will emphasize some of the realistic and practical factors involved in the development of integrated educational programs for mild to moderately handicapped students.

Mainstreaming: A Starting Point

The development of successful mainstreaming programs for the handicapped requires the commitment of both the regular education and the special education teacher who jointly share responsibility for the child in question. Because of their different backgrounds and expertise, both of these professionals have an important contribution to make to the educational plan for the child. The special education teacher will have knowledge of methodologies in the areas of differential diagnosis of learning and behavioral problems and individualized learning materials and instructional strategies. The regular education teacher must be recognized as a subject matter specialist, particularly at the secondary level, and of the foundational subjects at the elementary level. And it may be that the regular education teacher has the better understanding of the educational environment which the handicapped child will enter--particularly if special education services are provided on a

consultative or itinerant basis. The lines between special and regular education teachers are not drawn with indelible ink, the professional roles do overlap. There are many special educators with considerable expertise in content subjects just as there are regular educators who are adept at diagnosis and individualization. Unfortunately, professionals with dual credentials in both regular and special education are still a rarity--and it may be that the job to be done is more than one person can do. We need to recognize that the professional roles of teachers are expanding and changing and that a "basic negotiation of the relations between regular and special education is underway (Reynolds, 1978)." We need to strive for the working partnership which will bring maximum benefits to children and a sense of professional satisfaction to their teachers.

The remainder of this chapter is devoted to a discussion of the academic and social integration of handicapped children. No distinction is made between regular and special educators; our remarks and suggestions apply equally to both.

Social Integration

An important point to consider in the planning of mainstream programs is the important of social integration. Too often teachers and administrators pay attention to the academic aspect of education to the exclusion of attitudes, values, and social skills. Such skills and attitudes are so important that Cartledge and Milburn (1978) have labeled them the "hidden curriculum" of the classroom. We know from experience that success in the classroom is often more dependent upon social and behavioral skills than academic achievements. Therefore, the mainstreaming plan must address both the social and behavioral variables as well as academic skills if the student is to have a fair chance for success in the regular classroom.

Admittedly, the foremost component of the mainstreaming plan is the amount of time that the youngster will spend in regular education environments and the types of programs in which the student will participate (e.g., non-academic subjects such as gym or academic classes such as English or math). The amount of time to be spent by the student in regular versus special classes, scheduling and other logistical matters are legitimate concerns. But we would argue that a mainstreaming plan which focuses mainly or exclusively upon such considerations is insufficient. Such logistics merely entail temporal adjustments and physical accommodations and in and of themselves will not guarantee the child's success. A minimal plan of this sort, measured by the amount of time spent with the nonhandicapped versus the handicapped will not achieve the real goals of mainstreaming which are social integration and academic success. In the long run, if mainstreaming achieves no more than the superficial co-mingling of the handicapped and nonhandicapped, all who are concerned about the success of the mainstreaming effort will be dissatisfied; and the students, disabled or non-disabled, will be cheated of a valuable learning experience.

Social integration should strive for meaningful interaction between the disabled and non-disabled in which there is an opportunity for the nonhandicapped to acquire positive attitudes about disabilities and for the disabled individual to increase his or her personal feelings of competence and self-worth. There are two sets of attitudes in the classroom--the attitude of the nonhandicapped toward the disabled and the attitudes of the handicapped toward themselves (Johnson and Johnson, in press)--ideally the mainstreaming experience will impact positively on both sets of attitudes.

Attitudes Toward the Handicapped

A major force behind the mainstreaming movement has been the widespread belief, held by lay persons and professionals alike, that closer contact between the handicapped and the nonhandicapped, particularly within the classroom, would dispel negative attitudes and help to foster positive attitudes and acceptance of the handicapped (Christopholos and Renz, 1969). But despite our beliefs or desires in the matter, research reports on this critical point have yielded mixed results. While some researchers have found that the "contact hypothesis" is viable, others have found that contact between the handicapped and nonhandicapped does not increase social acceptance. In some instances, physical proximity between the groups actually resulted in an increase in prejudice and rejection (Goodman, Gottlieb & Harrison, 1972; Gottlieb & Budoff, 1973; Iano et al., 1974). The conflicting research findings underscore the complexity of attitudes and the difficulty involved in attempting to change attitudes.

Changing Attitudes About the Handicapped

Towner (in press) has recently reviewed the research literature on modifying attitudes toward the disabled. He found that most research studies involved attitudes toward mildly handicapped though other handicapped groups were studied. The participants in attitude change studies included students, (elementary, secondary, college), teachers and administrators, related professionals, and community groups. Though many different strategies were used, the two basic approaches to attitude change were (a) increased contact with the handicapped and (b) increased knowledge about the handicapped. Towner reports that attempts, to date, to alter attitudes have been minimally effective with scant attention to long term effects or to observed changes in teacher behavior when teachers were the

target group. Despite such disappointing results, the importance of the task demands continued efforts. A final judgement on the question of attitude change is premature at this time. The research literature must be sifted to identify positive effects and to glean insight even from negative outcomes which will provide the direction for better empirical investigations that will rest upon firmer theoretical and methodological foundations.

Attitudes and Classroom Interaction

Johnson and Johnson (in press) have described the social judging of the handicapped as a process evolving from negative attitudes and stereotypes to attitude change or confirmation - eight stages in all. On the basis of their research they suggest that the outcome of the process--acceptance or rejection--is tied to the pattern of interaction between the handicapped and the nonhandicapped which prevails in the classroom. Johnson and Johnson maintain that one finds three patterns of classroom interaction: competitive, cooperative or individualistic and that "these three types of goal interdependence create different patterns of interaction among students which in turn creates positive attitudes toward and acceptance of classmates regardless of their handicap or negative attitudes toward and rejection of handicapped peers."

A competitive atmosphere prevails in most classrooms, yet research has shown that competition intreaction has a negative effect on interpersonal relations among students. In contrast research findings suggest that cooperative learning situations fostered positive attitudes, mutual liking, and respect as well as other benefits such as an improved learning climate in which students who tended toward anxiety and/or tension felt more comfortable (Johnson and Johnson, in press). There are clear implications for the

teacher--cooperation should be the preferred mode of interaction in the classroom, competitive learning situations should be employed sparingly and only in those situations in which the introduction of competition clearly produces some benefit.

Finally, there is relatively little research available on individualistic learning; however, Johnson and Johnson suggest that the lack of interpersonal contact argues against its use. Individualistic learning, i.e. a student interacting primarily with materials or equipment rather than other students, is quite prominent in many special education classrooms. On the basis of Johnson and Johnson's work one ought to reevaluate this instructional strategy in special education and guard against its overuse in regular classroom settings. The essence of individualization is not "learning by one's self" but rather learning as one learns best.

Johnson and Johnson also categorize approaches to attitude changes as as behavioristic, cognitive, social, and structural. They offer suggestions aimed at fostering positive attitudes among the nonhandicapped and improvement of self attitudes of the handicapped individual. Many of the specific strategies are consistent with Towner's observation that primary strategies for attitude change involve increased contact and information. Johnson and Johnson have also added the element of confrontation between attitudes toward self and perceptions of others as a strategy to bring about changes in the self evaluation of the disabled. It may be, and research tends to support the notion, that a combination of information and contact is a powerful attitude change agent.

Improving Attitudes Through Social Skills

Contact between individuals focuses attention on the social skills; the increasing contact brought about by mainstreaming emphasizes the importance

of social and interpersonal skills of the handicapped. In the classroom social skills are related to peer and teacher acceptance of the handicapped and academic achievement (Cartledge and Milburn, 1978); and, yet, the acquisition of social skills is left to chance. Rarely are social skills incorporated into the fabric of the curriculum.

Cartledge and Milburn (1978) have defined social skills as "those social behaviors, interpersonal and task related, that produce positive consequences in the school classroom setting." The types of behaviors which teachers value and which will stand students in good stead are smiling or nodding, taking notes, eye contact, asking questions, volunteering responses, completing assignments, paying attention, helping, sharing, greeting others, controlling aggression, following directions, etc. Social skills, sometimes referred to as survival skills, can and should be taught (Oden and Asher, 1977; Hops and Cobb, 1974). Positive reinforcement strategies and modeling are successful approaches to the inculcation of social skills be they interpersonal or task related. Research studies have also demonstrated a reciprocal relationship between student and teacher behaviors--students can alter teacher behaviors by altering their own (Klein, 1971; Noble and Nolan, 1976).

Published resources are available to help the teacher build a social skills curriculum and impart social skills to students (Sheppard, Shank and Wilson; 1973; Swift and Spivack, 1975; Stephens, 1977)--but the starting point is to recognize the need to do so.

Academic Integration

Academic integration involves the inclusion of the handicapped student into the instructional activity of the regular classroom. Placement of the handicapped student should be made with great care and foresight so that

the student will be introduced into a situation which permits him or her to blend academically with his or her peers. Ideally the handicapped students' standing in the classroom should be such that their academic handicaps are relatively inconspicuous. If the discrepancy between academic levels of the student and the class is too great, the mainstreaming experience may consist only of a superficial involvement in which the students are present in class but not profiting from or contributing to the on going instructional activity. For lack of adequate skills, students may find themselves unable to contribute to the academic life of the class and socially isolated as well.

Therefore, a critical consideration in the mainstreaming plan is the degree of academic discrepancy between the handicapped students and the group(s) in which they are placed. It is essential to determine the degree of difference between the academic functioning of the handicapped and the nonhandicapped students and to gauge the degree of pupil variance to which a particular teacher can accommodate. The accommodative skills of teachers do vary. For the student who is too far removed from the norm of the class, successful integration is not likely. Keogh and Levitt (1976) have suggested that "successful mainstreaming occurs when there is congruence in educational competence." This point has been given too little attention by proponents of mainstreaming. However, our own experience with mainstreaming corroborates the importance of this consideration. The School District of Philadelphia, via a federally funded grant, recently completed a three-year study of one of the obstacles to mainstreaming frequently mentioned in the literature--lack of specific skills among regular education personnel needed to teacher handicapped students in the regular class. The primary goal was to equip regular education, secondary teachers with the skills they would need to provide instruction to the special education students to be placed in

their classrooms. Assesssment of teacher attitudes toward mainstreaming at the beginning of the study indicated that the teachers felt handicapped students should be mainstreamed but that their willingness to accept handicapped pupils in their classrooms was dependent upon their acquisition of the skills to teach these students. Three years later at the conclusion of the study, the teachers still expressed positive attitudes toward the concept of mainstreaming and, moreover, felt that they had received excellent information and knowledge about special students, as well as specific skills regarding how to teach them. However, the teachers now expressed an unwillingness to accept the students into their classes if the handicapped students were too far below their nonhandicapped students in skill development. Of the students who were slated for mainstreaming some were functioning as much as four, five and, in some cases, six years below their regular education classmates. Apparently these teachers were cognizant of a critical factor which has not been given sufficient consideration by educators and administrators at large. The results of the Philadelphia study corroborated the thesis proposed by Keogh and Levitt--the greater the discrepancy of the academic skills development between the special student and the student in the regular class the greater the chances of mainstreaming failure.

Individualization: A Critical Consideration

To maximize the probability of mainstreaming success, regular class placements for handicapped students must be carefully chosen. In addition, teachers must give consideration to the modifications or accommodations that will enable handicapped students to participate meaningfully and successfully among his peers. "Good teaching and good learning take place when the education processes are varied according to interests, abilities, achievement,

learning styles and student preferences." (Turnbull and Schulz, 1979). Teachers who share these sentiments, will be anxious to learn techniques for the individualization of instruction.

Assessment

An essential factor to effective individualization of instruction is the gathering of accurate information regarding what each student knows, what he does not know and what he needs to learn. The handicapped student generally comes to the regular education class laden with assessment information from previous evaluations, anecdotal records, pupil files, etc. The pupil's file will also contain the Individualized Education Plan, the "blue print" of the handicapped student's instructional program. The I E P may be the most helpful document to the teacher in the planning of instructional activities. The seven components of the I E P fulfill three basic purposes:

1. Establishing where the student is (determining present levels of educational performance);
2. Identifying how much and what one can reasonably expect him/her to learn by the end of a year (writing annual goals); and
3. Determining the steps to be taken in achieving annual goals and the means to measure the student's progress (specifying short-term objectives and terming the means of evaluating progress).

The present education levels will be especially helpful to the regular education teacher receiving the handicapped student as it roughly indicates where the child should begin in the regular curricular programs. If further testing is required, appropriate tests can be chosen from the large selection of standardized or informal tests, or the teachers can design tests which are better suited to getting accurate information about the student's strengths and weaknesses. But, when testing the handicapped it is often necessary to consider the mode of presentation and response to the test instrument, e.g., whether to use a paper and pencil test, whether to put a test on tape to

bypass a student's reading problems, whether to ask a student to respond orally or into a tape recorder to avoid fine motor problems, whether to allow more time for the particular student to complete the test, whether to score content only, etc.

Assessment is primarily for the purpose of determining what a student knows and does not know. This information must be linked to what the teachers want the student to learn; what the school system, via its curricular requirements, wants the student to learn and to what the student wants to learn. These, in turn, must be tied to teaching strategies that have been identified as successful in enabling a student to learn.

Controlling Instructional Variables

Our suggested approach to instructional planning stresses that the teacher controls the learning environment and can manipulate curricular and instructional factors (Goodman, 1978).

The teacher controls the time a learning activity will take place; the place where the learning will occur, e.g. whether the student will be taught individually or as a part of a small group, a large group or by a peer. Teaching a student individually, in a small group or as part of the whole, large group is generally done by the teacher. Peer teaching can be a great help to both the teacher and the handicapped student if the teacher finds that the student needs just a bit more individual instruction than the teacher can give. Peer tutoring can also contribute to the learning process. For one thing, students often find great satisfaction in working with each other. For another, it is extremely valuable for students to learn that knowledge and skills can be shared and that handicapped students may have something to teach to nonhandicapped students.

The teacher has control over external motivators and can use techniques such as behavior modification, student self-monitoring, student contracting, etc., to actively involve students in the learning process. Contracts, are particularly useful because they remove the time variable from learning by permitting students to work at their own pace. They also promote independence on the part of the learner and help students to take responsibility for their own learning. In addition, and perhaps most importantly, contracts emphasize analysis of individual needs and the preparation of lessons and materials suited to a specific child--the essence of individualization.

The teacher has control over the amount and the type of homework required of students. An indirect benefit of homework is that it often brings parents into the learning situation which gives the teacher an opportunity to make parents feel that they can be a part of the instructional environment if they so desire.

The teacher controls his own teaching style. A predominantly lecture approach can be used or techniques which encourage discussion and discovery. Individual instruction may be stressed using learning stations, interest centers, media corners, learning activity packets, etc. Such techniques cast the teacher in the role of instructional manager of the learning environment and instructional activities. As a manager the teacher has greater freedom to observe what is happening to the student, to intervene, when needed or to allow students to work alone.

Learning centers are particularly helpful if they are constructed properly. Learning centers should have multilevel activities and materials that allow for various modes of learning to meet individual needs and learning styles. Learning centers should offer activities that range from easy to

difficult, from concrete to abstract, from manipulative materials to paper and pencil tasks; in this way centers can be used by both handicapped and nonhandicapped students. The use of media in a center greatly increases its utility for handicapped students. Learning centers provide a setting that is related to the ability and the learning style of each of its users and can be used for independent study, follow-up for concepts taught by the teacher, enrichment, etc. (Turnbull and Schulz, 1979).

Learning activity packets are yet another instructional strategy that takes individual differences into account. They are somewhat different from a learning center in that a learning packet is intended for use as a self-instructional unit designed to assist students in learning a basic concept. It is difficult to construct a packet that "teaches." Therefore, teachers might want to construct "Practice Activity Packets," which are also useful instructional aids but which stress practice, not the initial teaching, of concepts. Learning activity packets should be prepared to meet a specific instructional needs. One of the misuses of learning (or practice) activity packets is that of assigning them to every student whether needed or not.

There are many resources available which provide instruction on the development of learning and practice packets, but perhaps one of the clearest is Mainstreaming Handicapped Students: A Guide for the Classroom Teacher by Turnbull and Schulz, (1979). These authors indicate the following essential components of a learning activity packet:

1. A specific objective or set of objectives;
2. A pretest designed to assess the student's level of achievement relevant to the objective or objectives appropriate to the instructional experience;
3. A series of instructional activities designed to help the student meet the objective or objectives;
4. A posttest designed to access the student's level of mastery relevant to the objective or objectives; and
5. Remediation procedures for those students who do not demonstrate mastery on the posttest.

Specific Learner Problems

Teachers will often seek strategies for specific learner problems--one of these is the problem of inattention. Many handicapped students, especially those who have had difficulty acquiring reading skills, have acquired little information from what they hear. (Few of us realize that 57.5% of the class time is spent listening [Taylor, 1973]). Therefore, an essential teaching strategy to be employed for both the handicapped and nonhandicapped student must be to teach students how to listen. Too much of listening activity is without purpose and, therefore, it is done inefficiently and with limited learning. According to Barbe & Myers (1971), students in general should do more talking and listening to each other instead of the teacher to combat the problem of inattention.

Turnbull and Schulz (1979) have the following strategies to suggest to counteract problems that center around attention:

1. Seat an inattentive student close to the teacher or attentive peers (use as role models);
2. Be sure that assigned tasks are commensurate with the student's achievement and ability level;
3. Make directions clear and easily understood by using
   - consistent language
   - as few "Jargon" terms as possible
   - routine formats for seatwork assignments
   - a peer tutor to explain directions
   - a tape recorder for more detailed directions;
4. Limit distractors on the printed page;
5. Adjust the length of time the student is required to stay on a task;
6. Intersperse work activities with games in between;
7. Capitalize on student's interest - even if what the student is interested in learning is out of planned sequence; and
8. Use mechanical, manipulative devices more often--paper and pencil less often.

Another common and difficult problem is that of concept development. A common misconception among too many teachers is that the handicapped cannot learn abstract concepts and problem solving skills. But, there are teaching strategies to overcome the problems that many handicapped students

display in the acquisition of higher order concepts and problem solving. According to Turnbull and Schulz (1979), the teacher's fundamental approach to instruction of concepts and problem solving should be via the same sound pedagogical procedures that are used with nonhandicapped students.

1. Teach from the concrete to the abstract,
2. Teach from the known to the unknown,
3. Teach from manipulative objects to paper and pencil tasks, etc.

The complicated, higher level, abstract concept development skills will follow. Just bear in mind that these basic teaching principles must be placed to the handicapped student's rate of learning.

Difficulties in remembering that which is taught is often another problem that special students present to the teacher. Though memory problems are not as responsive to remediation as discrete academic skills, Cawley and Vitello (1972) suggest the following strategies:

1. Attach some meaning to the material so that it can be remembered more easily;
2. Be sure to teach the concept behind any facts that you want a student to memorize, before asking the student to memorize the facts;
3. Determine, via a pre-test, which facts the student already knows;
4. Determine what is absoluately essential to be committed to memory and eliminate that which is irrelevant;
5. Identify preferred learning style and method of practice;
6. Document effective strategies (i.e., clustering, associating, rehearsing);
7. Establish the amount of information or the number of facts a student can memorize at a given time, so that the amount assigned to be learned is realistic;
8. Permit students to chart their own learning; and
9. Work toward over-learning.

Despite such efforts there are students who simply will not be able to memorize. For such students it will be necessary to develop a system that they can use quickly and unobtrusively, that is also socially acceptable, to help them with certain essential information and skills. For example, a student who is never going to be able to master basic arithmetic facts could

be taught to use and to carry a small pocket calculator. Kramer and Krug (1973) and Kokaska (1973) developed a system for students who cannot seem to memorize arithmetic facts that uses fixed reference points on numbers to help students count.

The strategies discussed are but a few of the many ways teachers can adjust and adapt to the needs of the handicapped youngster who come to the regular education class. It is impossible to include more than a few suggestions in the confines of a single chapter. In fact, many authors have written extensively on the topics we have briefly touched. But our purpose is to make teachers more sensitive to the problems of the handicapped and more aware of the resources available to them. And, of course, the regular education teacher's greatest resource may be his/her special education colleague. In addition, strategies that regular education teachers have employed simply as a matter of course as they adjust to the individual differences and needs of the students they already have will come to mind as helpful to the handicapped youngsters as well. Conversely, as teachers identify new strategies that seem to work particularly well with handicapped students, they may find some of these techniques to be helpful to the non-handicapped student in the class as well.

Using Existing Curricular Materials

Whenever possible the handicapped student should be placed in the curricular programs in the classroom. However, the conceptual load, linguistic complexity and the readability level of the curricular materials must be considered.

One of the simplest ways to determine if a student will be able to read a particular text is to apply Botel's "Rule of Thumb." Select a short passage of approximately 100 words. Ask the student to read it aloud. If 5 or

more words are missed the selection will be too difficult. Students can be taught to do this for themselves. This is a helpful technique because many times textbooks are written at much higher reading levels than the grade for which they were intended. Knowing that the handicapped student is reading on a fourth-grade level and having a fourth-grade social studies text book will not always yield a match.

Once it is established that a youngster can read a particular text, a quick pre-test on content of each chapter or section that the student will be required to read, is in order. The teacher must assure that the content will provide some new information but that the student will not be without any information at all on the topic. While there are some procedures and criteria that a teacher can use to decide if a student has been placed properly in a given set of materials, in the final analysis, the teacher's judgment will prevail. To help teachers evaluate materials the reader is directed to the work of Boland (1976) in Teaching Exceptional Children in which she indicated fifteen specific criteria to help the teacher select materials that are suited to the students, the teacher and the classroom environment. Wiederholt and McNutt (1977) offer suggestions to help teachers initially select materials and once in use, help the teachers determine if the materials were effective.

Modification or Adaptation of Curricular Materials

If curricular materials can be used as they are, so much the better. It is more likely that some adaptations or modifications will have to be made to accommodate the handicapped student.

A major problem encountered in presenting the regular curriculum to the handicapped student is readability. In these instances, a tape recorder is often one of the simplest ways of modifying or adapting existing materials.

Lessons requiring extensive reading can be taped. The teacher may be surprised to find many of the nonhandicapped students in the class will also very much appreciate the change in presentation of printed material that the tape recorder affords. Content areas such as science, social studies and language arts lend themselves well to tape recording. While tape recording is time consuming for the teacher, it would not be considered so by volunteers such as other students, grandparents, parents, college students, etc., who are frequently available and willing to help.

The teacher may also wish to rewrite textual material at a lower cognitive and vocabulary level. Older, more capable students, parents, other teachers in the building such as reading specialists and special education teachers could be asked to help with this time consuming task. Once it is done, the rewritten chapters could be catalogued, laminated and filed to be ready for use with other students with similar problems and needs. Further, a regular education student or two may be having difficulty with the same concept and the rewritten chapter will help them as well.

Another adaptation that can be made to existing materials to simplify them for the student is to reorder the sequence of the content as the chapter is being rewritten. For some handicapped students, the impediment to the acquisition of abstract concepts is a lack of prerequisite skills and knowledge in the hierarchy of a particular content area, not poor thinking skills.

It may also be helpful to the student to limit the required content to that which is essential rather than requiring mastery of excessive text. In addition, the amount of time allotted to acquire the information may have to be lengthened, and the mode of presentation may have to be altered.

During class discussion of content area materials, the teacher should guard against limiting questions to the handicapped student to only low level queries. This habit may be due to a sincere concern for the child but may seriously hamper the student's opportunities to develop higher order thinking skills.

For the student who has difficulty writing or spelling, the tape recorder is again a valuable tool. The tape recorder permits the student to record his answers instead of writing them, thus removing unnecessary pressure. This technique can be extended to writing activities in general for the student who is resistant to writing for other reasons. If a peer tutor, teacher, or volunteer could write out that which the handicapped student has put into the tape (or tells the tutor directly), the student may appreciate the value of his own thoughts and responses and be more willing to write for himself.

If it is a question of the student lacking the fine motor coordination needed for legible penmanship a typewriter is in order. For those students with milder motor skills problems, who may simply find it difficult to hold onto the pencil, a commercial pencil grip or a ball of clay or sponge molded around the pencil will be of great value.

When modifying or adapting materials, a few general suggestions always apply. Initiate as few alterations as possible to achieve the desired results. Experiment with one variable at a time and assess its effectiveness before making another change or any multiple changes. Try the simplest and most obvious solutions first. Give any change a reasonable period of trial. Maintain records of student's performance during each change so that objective decisions can be made.

Monitoring of the instructional program is the final critical step in individualization. As teaching takes place, the teacher should be engaged in continuous assessment of student progress and documentation of the techniques and materials that were most successful. Otherwise, the teacher has no way of knowing whether or not instruction, no matter how carefully constructed, has been effective (i.e., the student has learned what was taught).

Monitoring instruction will provide important information regarding the instruction process (i.e., when to speed up, slow down, drill review, change the mode of presentation, etc.). However, all of the information regarding the various interventions will fall short if the teacher has not documented what works and what does not. Documentation is such a critical step in the instruction process, that it is a requirement of the Individualized Education Plan. As the handicapped student progresses through the regular class program, it is necessary to document the level of instruction the student achieves, the instructional objectives that are met and the evaluation criteria that was used to judge the student's performance and progress. As the exceptional student achieves the annual goals and short term objectives on the I E P, new goals, objectives and evaluation criteria will be generated. Writing the new I E P will be so much easier if the teacher has kept good records, and has documented student performance and growth.

Conclusion

Our discussion of mainstreaming has revolved about three critical considerations: the importance of social integration, the importance of academic discrepancy between the handicapped and nonhandicapped as a factor in the decision to mainstream and the importance of individualization of instruction

to success of the mainstream program. There are other considerations which also contribute to the eventual success or failure of mainstreaming, e.g. administrative concerns. However, our focus has been the classroom and the classroom teacher.

This brief, limited exposure to some of the requirements for the development of mainstreamed educational programs was not intended to discourage teachers. The job to be done indeed may appear Herculean. Yes, but the needs of the student cannot be denied. The key to accomplishment of the many tasks may lie in the cooperation and collaboration of the regular and special education staff which can maximize the invaluable resources of professional time and expertise.

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Personnel Development and the Least Restrictive Environment: Implications for Vocational Education

Maynard C. Reynolds
University of Minnesota

A major principle of the new policies regarding the education of handicapped students in our society is the "least restrictive environment." When a public agency intervenes in the life of an individual, it must do so in ways that least interfere in the life of the individual. For example, mental health personnel are not free to declare a person mentally ill and then remove him from his natural environment to a mental hospital or other special place. Similarly, when particular students are discovered to have special needs in the schools we are not free to remove them to special stations; we try to maintain such students in the mainstream by providing special education and services for them.

If we use special stations, such as resource rooms, special classes or special schools, such use must be on the basis of individual prescriptions and for limited periods of time. Any movement of handicapped students away from mainstream classrooms must be supported by an Individualized Educational Program (IEP).

The logic of special placements has been changed drastically by recent policies. Simple categorical determinations, which are based on the various handicap criteria and followed by automatic referral to the special centers, are no longer in favor; in fact, they are illegal.

In practical terms, the application of the principle of the "least restrictive environment" affects both handicapped students and teachers. For the students, the principle opens the full range of educational programs; for

teachers and other personnel who are trained to provide specialized services for students with special needs, the principle often means detachment from special settings and inclusion in regular school facilities as support teams for classroom teachers and for handicapped students. For regular classroom teachers, the principle presents new challenges in dealing with a more diverse student population and in collaborating with personnel comprising the support teams.

Nowhere is the application of the principle of the least restrictive environment more important than in vocational education. It is critical to the successful development of programs for handicapped students in the lower grades that these students be able to look forward to advanced education which leads to employment. It is not possible to duplicate the richness of vocational education in special schools for separate groupings of handicapped persons. We must open the full range of vocational education to handicapped students as a way of meeting both individual needs and societal needs for large numbers of self-sufficient, nondependent persons.

Trimming Down the Cascade

It is important to understand that the least restrictive environment provision does not mean that students showing all degrees and kinds of handicaps can claim places in any school program. Students up to twenty-one years of age have the right to education, but this does not mean a right to enter any program of their choice. The law mandates for handicapped students an appropriate program which is based on the careful assessment of their needs and is mutually agreed upon by teachers, other school officers, the students, and the students' parents. However, handicapped students may not be denied access to a program simply because they are handicapped if they qualify for admission.

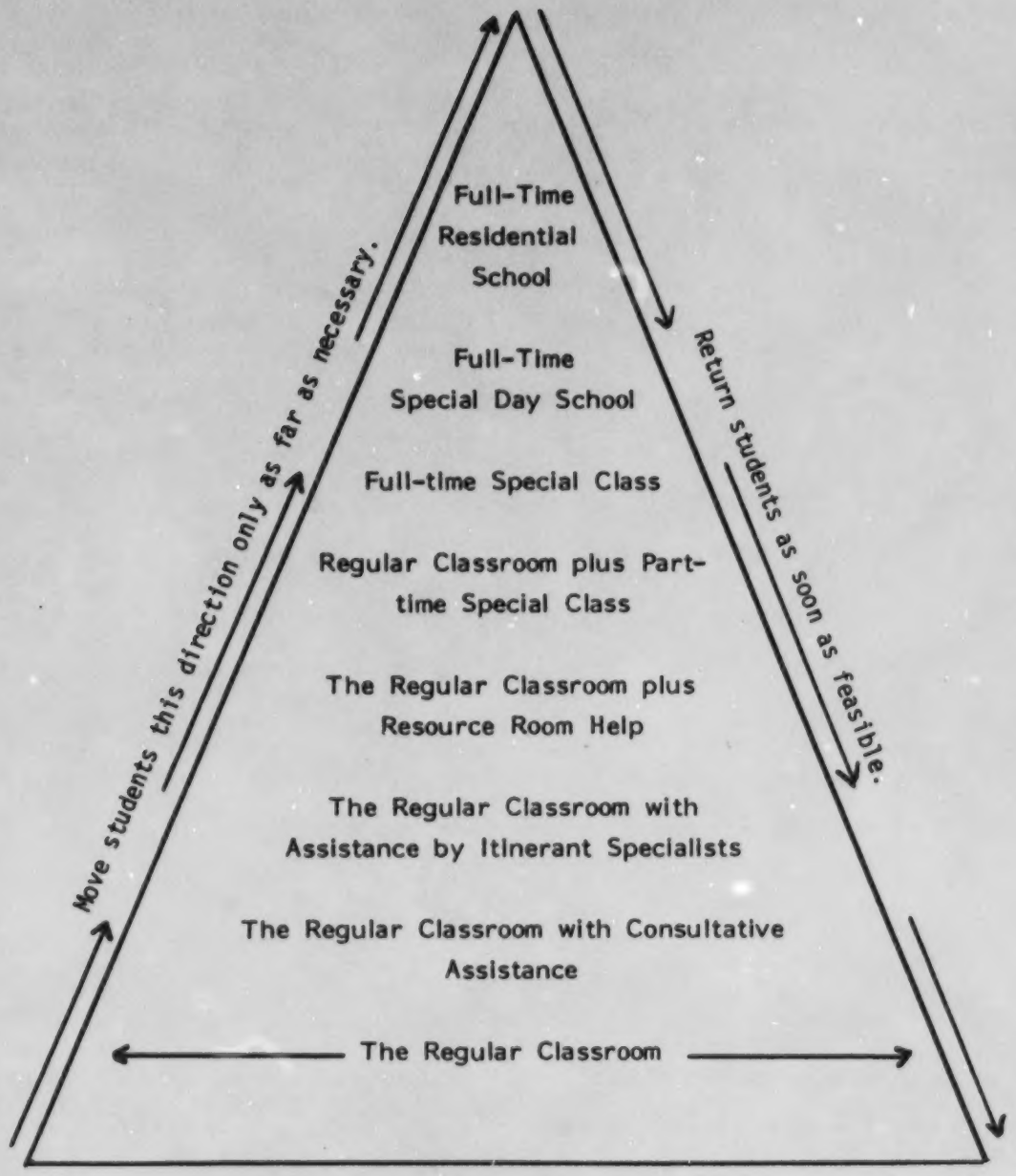

Fig. 1. The Special Education Cascade

As predicted in Figure 1, programs for handicapped students can be described in terms of a cascade of services. Most handicapped students are enrolled in regular school programs. When unassisted regular teachers cannot provide the needed programs, adaptive arrangements can be made at a number of levels: (1) simple consultation, (2) part-time help by itinerant specialists, (3) part-time placement in resource rooms or special classes, (4) greater specialized aids and more extreme forms of special arrangements, or (5) specialized hospital treatment.

We can expect programs to be maintained at all levels of the cascade. Some students will always be better served than others in special settings. However, the least restrictive environment principle suggests an attitude which must be applied in making placement decisions: students should be moved up the cascade no higher and for no longer a period than necessary and then moved toward the mainstream or the base of the cascade as soon as is feasible. The general predisposition toward normalization must guide our relationships with handicapped students. The orientation is inclusive rather than exclusive; it expresses a willingness to live and work daily with children and youth who are different or who have special needs, as opposed to expecting such children to be removed to isolated settings.

Events are progressing rapidly now to trim the upper portions of the cascade and to move handicapped students, along with their teachers and related staff, toward the base of the cascade. The rate of referral out of the mainstream schools and into special stations for younger students is being reduced. These changes mean more demands for the accommodation of handicapped students in mainstream programs, although it remains true that not all students can be mainstreamed. The most appropriate environment for some students is, and will remain, the upper portions of the cascade.

Placement Decisions

If handicapped students are sometimes appropriately placed outside the mainstream school settings, the question arises as to how the placement decisions should be made. By the employment of questionners, a definite set of criteria on which to base regular school placement or a set of thresholds on degrees of handicap and other observed characteristics can be used to make placement decisions.

The problem is too complex for simple answers. When it is necessary to remove a student from a regular school or regular classes, we have taken a measure of the school as well as the student. Whether a student can be accommodated in a regular program depends not only on the student's characteristics but on: (1) how well-trained and effective the teachers are, (2) how effectively the special education support staff is working, and (3) the adequacy of the school facilities, and instructional materials. Placement decisions require attention to both the student and the environment.

Perhaps the best formulation is the following: in considering the appropriate placement for a handicapped student, there is an obligation to weigh the characteristics of the student, the characteristics of available alternative programs, and the potential of immediate accommodations in existing programs before determining which program offers the greatest promise for the student. In each decision, preference goes to mainstream placement unless definite advantages for the student in other arrangements can be anticipated.

In placements, we are accountable for the competent study of each student, the school situation, and the subsequent decisions. The test we must meet is that of "consensus doctorum," which means that if people in the field of student personnel and vocational education were convened to review

the decision in any case, they would be able to say, "The student and school situation were carefully and competently reviewed, the decision was made competently, and the student has been well served."

Personnel Development

Although laws are powerful instruments in our society, they cannot, by themselves, effect the changes that are required in the application of the least restrictive environment principle. The critical elements in the long-range development of mainstream settings for handicapped students are teacher attitudes and competencies. Teachers have not had the kinds and levels of competencies which are necessary for working with handicapped students in regular school settings, and from there it is only a short step to the conclusion that teacher preparation programs have not included the necessary elements.

Recently, a great deal of discussion has centered on the specification of those competencies that would seem to be essential if all teachers are to be capable of providing individualized instruction for students, especially those who are handicapped.

The following nine competency clusters have been derived from discussions among teacher educators working in "Dean's Grants Projects." These are special projects funded by the Office of Special Education, United States Department of Education, and managed by deans of colleges or departments of education to improve preparation programs for regular teachers and, thus, comply with Public Law 94-142, the Education for All Handicapped Children Act of 1975.

Some people will feel that the nine competency areas go too far in their demands upon regular teachers--especially vocational teachers. I think they

do not, but obviously they do present a very great challenge to teachers and other personnel in vocational education.

Clusters of Competencies

These competency clusters should not be interpreted in the same sense as competency-based instruction; they simply map domains of professional competence that appear to be important for every teacher under the least restrictive environment provision of Public Law 94-142.

1. Curriculum

It is clear that the addition of handicapped students to regular classrooms and schools increases the breadth and variety of learning needs and skills represented in the classroom. This span of abilities creates a major challenge to all teachers.

All teachers should have a general knowledge of the school curricula that is offered across all grade levels and of procedures for altering curriculum to meet individual needs. Every teacher should be able to describe the curricula content and objectives that are typical of the nation's schools and the rationale for each major curriculum element. Each teacher should be able to relate curricula to what is known about human development and to the functions of schools as social institutions. This ability is necessary in order that responsible planning for pupils can be conducted with assurance that no essential consideration is overlooked and that modifications for individual needs are made competently.

2. Teaching Basic Skills

All teachers should be able to teach the basic skills effectively. These skills fall into three main categories: literacy, life maintenance, and personal development.

Literacy skills are those for which the school has primary responsibility and those which are necessary for continued learning as well as for effective social and economic functioning. They include reading, which all teachers should be able to teach at a minimum of fifth-grade level (word attack, word recognition, comprehension, and rate), writing (letter formation, sentence structure, and paragraph structure), spelling (rules and exceptions), arithmetic (whole number computation, simple fractions, time, and measurement applications), study (use of resources, critical thinking, and organizing data), and speaking (sending and receiving accurate verbal messages, expression, and intonation).

Life maintenance skills are those necessary for effective self-maintenance in society. Sometimes referred to as survival or life skills, they include health (personal hygiene and nutrition), safety (danger signs, maneuvering in traffic, and home safety), consumerism (making purchases, making change, and comparative shopping), and law (human rights, appeal process, court system, and personal liability).

Personal development skills are necessary for self-actualization. They include knowledge of self (values, moral behavior, and physical development), expansion of self (leisure activities, personal goals setting, and creativity), work processes (time management, problem solving, and decision making), and working in groups (conflict management, leadership, communication, and responsibility). The work of Brolin (1978) provides examples of instruction in personal development skills.

Each learner, functions at a unique level of achievement in these skills, and the skills need both reinforcement and extension; therefore, teachers should be able to teach them in accordance with student readiness.

3. Pupil and Class Management

All teachers should be able to apply individual and group-management skills to insure a high level of positive responses from students in instructional situations.

The skilled management of pupils helps them to maintain attention on school-related learning activities and to build positive feelings about themselves, their classmates, and their schools. Teachers should be highly effective in group-alerting techniques, management of transitions in school activities, responses to daily crises, and management of a variety of learning activities in a single setting at the same time (Brog, undated). For effective learning outcomes, time on task and favorable attitudes must be maximized.

All teachers should be able to apply behavioral analysis procedures (sometimes called behavior modification or contingency management procedures) to encourage both scholastic achievement and acceptable personal and social conduct.

4. Professional Interactions

All teachers should be adept enough at collaboration, consultation, negotiation, joint planning, interviewing, conferring, staffing, and other forms of communication as both initiators and receivers so they can establish and maintain responsible professional interactions with colleagues, students, parents, and administrators. These skills are particularly needed in the development of individualized educational programs (IEPs).

Teachers should be able to serve as consultants and all teachers should learn to be competent "receivers" and "users" of consultation.

Key elements in all such interaction include a firm grounding in consultation processes and resourcefulness in building trust. In all collaborative

interactions, teachers should recognize that they are coequals with all other personnel; true collaboration is possible only when participants accept themselves and others as specialists who share expertise to create optimal school programs for individual students.

5. Student-Student Relationships

All teachers should be able to model and teach students how to relate to each other in ways that produce satisfaction and self-improvement. This ability should be based on counseling skills, competency in using group activities that encourage cooperative behavior, and a strong foundation in studies in human development.

Peer and cross-age teaching is a specific kind of constructive relationship which can be used advantageously by all participants. It offers exceedingly important learning experiences to the students who tutor as well as to those who are tutored. Encouraging students to teach and help one another is a complex undertaking but, like effective teaching in other forms, it produces a high return.

When teachers have the prerequisite skill to take solid command of the social structures of their classes through effective teaching, they find that they have a powerful additional tool with which to construct individualized learning situations. Fortunately, we have an expanding knowledge base which can be utilized to improve teacher preparation in this area; I refer to the work of my colleagues, David and Roger Johnson (1975).

6. Exceptional Conditions

All teachers should understand the basic procedures for the instruction of students with handicaps. They should be aware of the literature and body of practice in each area which can be pursued in depth when an exceptional student is enrolled in the class. Teachers should be cognizant of the

functions of various specialists who work in the schools (e.g., psychologists, educational audiologists, school social workers, resource teachers for the visually impaired, etc.), so they can be brought together for teaming arrangements for the instruction of exceptional students.

7. Referral

When a student presents a problem which a teacher feels unable to resolve, it is not a mark of inadequacy for the teacher to seek the aid of a colleague. In fact, failure to make a referral in such an instance is a violation of professional ethics since it deprives a student of access to someone who might provide help.

Teachers need the skills to detect actual or potential problems, determine whether the solutions to the problems are within their professional competencies, and, if not, refer the problem for solution. Sometimes the referral will be made to a special resource within the school and sometimes to a community agency.

An important aspect of a good referral process is being able to make and report sytematic observations of pupils who are experiencing difficulties. All teachers need to be competent in the observation and assessment of individual students and of group behavior in their classrooms.

8. Individualized Teaching

All teachers should be able, while managing and monitoring a group of students, to carry out an individual assessment, identify individual learning styles, recognize special needs, personalize and adapt assignments, and keep records on individual student progress toward established objectives.

These skills form the essence of teaching the individual. It does not mean, of course, that all teaching is one-on-one, and it does not mean that the teacher should attend to all students at the same time with the same

degree of intensity. It does mean, however, that the teacher has mastered the tactics of instruction that make for continuity of learning with a reasonably close match between the interests and abilities of the pupils and the content that is being taught.

An important aspect of individualizing instruction is competency in using measurement, assessment, evaluation, and grading systems that promote honest and useful information sharing with the individual student. Teachers should be competent in domain- or criterion-referenced assessment and in structuring case data for the interpretation of a student's total educational situation as well as in evaluating their own instruction.

9. Professional Values

All teachers, in their personal commitments and professional behavior, should exemplify consideration for all individuals and their educational rights. They also should be skilled in assisting others (parents, colleagues, students) in understanding and accepting as positive values the increasing diversity in characteristics of students who are enrolled in regular school programs. They need to be able to listen to opposing viewpoints without considering them attacks on their own behaviors or values.

Both practicing teachers and teacher educators should be skillful and consistent models in what they say and do as professionals and in their commitment to the intent of national and state laws relating to education. Educators are free to dissent as a matter of individual conscience, but they should distinguish clearly between their continuing professional obligations to students and each other under existing laws and their rights as individuals to propose and promote orderly changes in the law.

The Knowledge Base for the Competency Clusters

Several observations can be made about the nine competency clusters just discussed. First these competencies are not necessarily the clear province of either special education or regular education. These matters are not simple lessons to be taught to regular teachers by special educators. They are the undergirding disciplines for education, psychology, sociology, history, and philosophy of education. Many people and disciplines can contribute to the achievement of these nine competencies.

Second, the competencies are important as fundamental to good teaching. It is this observation which has heightened the interest in and commitment to them by many educators. What started as a movement on behalf of handicapped students has led to general improvement of instruction affecting all students.

Teacher Preparation

It has been estimated that more than 80 percent of the teachers who will be serving in our schools ten years from now are already on the job. The task of propogating new competencies among them requires inservice training and development. A massive innovation like the one discussed here--the application of the principle of the least restrictive alternative--cannot be accomplished realistically simply through training programs directed to new teachers. New teachers move into the schools very slowly and they exert little influence. Innovations in preservice teacher preparation programs are not valueless, but such innovations must be strongly supported by parallel inservice programs. The problem of teacher training must be faced at all levels, but mainly in the inservice aspects.

When we prepare to launch necessary inservice education programs for teachers, consideration should be given to the following guidelines:

1. Training programs should be launched simultaneously at several levels (e.g., superintendent, school board, principal, supervisor, and teacher) and in the context of explicit public policy pronouncements from which are derived new expectations for program operations at all levels.

2. Training programs should be conducted systematically; they should take into account the personal concerns of all personnel (Hall, 1976) as well as concerns about organizational development (Schmuck, Runkel, Arends & Arends, 1977).

3. Training programs should be oriented to helping teachers meet their current instructional problems and needs and not concentrate solely on "mainstreaming" additional handicapped students. This focus requires careful needs assessments of current programs.

4. Training programs should be conducted, whenever feasible, by combinations of inhouse staff members, appropriate faculty members of colleges and universities, and personnel from state department of education offices and other relevant agencies.

Conclusions

The least restrictive alternative principle poses a major challenge to all educators. This new policy calls for teachers to perform in domains for which they are unprepared and calls for major changes in the structure of vocational education programs. Developing the necessary competencies and making changes in programs are complex and fundamental tasks. Increasing numbers of persons feel that, in connection with current efforts to implement the least restrictive alternative principle, we may be observing the opening needed for a major development in vocational education programs which will affect all staff, students, and programs.

The legal imperatives for change are strong, events are moving rapidly, new resources have been opened, the technology is available, and the moral aspects are compelling. Vocational education is in the public spotlight as it undertakes its response to the new policies concerning the handicapped. It is important to do this job right.

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Least Restrictive Alternative for Handicapped Students

Lloyd W. Tindall
and
John J. Gugerty
University of Wisconsin-Madison

Finding The Least Restrictive Alternative In Vocational Education

A comprehensive review of vocational literature reveals that the term "the least restrictive alternative" is seldom used by vocational educators. Vocational educators, however, have made research and curriculum developments which provide a basis for developing a least restrictive alternative for handicapped students. In 1977 Hull reviewed vocational education for the handicapped and did not refer to the term "least restrictive alternative." Hull did discuss recent legislation relating to the vocational education for handicapped students; alternatives for developing vocational programs; and educational strategies, needs, and curriculum developments. He concluded that the emphasis of future vocational programs must be toward equal access and maximum accommodation.

The least restrictive alternative according to Klein (1978) is based on the principle of normalization: "Normalized experiences are those which, for handicapped children most closely resemble those of their nonhandicapped peers" (p. 102). A high degree of restrictiveness implies that students are segregated and a low degree of restrictiveness implies an absence of segregative restrictions. Least restrictive setting would insure that there is

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*Adapted and reprinted with permission from Least Restrictive Alternative For Handicapped Students, Information Series 143. Columbus: National Center for Research in Vocational Education, 1979.

physical, social, and instructional interaction among all students. Therefore, the most interactive setting would be the least restrictive and the least interactive would be the most restrictive. Klein specified that the necessary components of an interactive setting should include:

1. Social integration
2. Status characteristics
3. Physical integration
4. Instructional interactions
5. The role of the teacher
6. Ecological aspects of the classroom

Burgdorf (1975) enumerated terms developed for describing the legal doctrine of the least restrictive alternative, including normalization, integration, the cascade system, continuum of educational services, and mainstreaming. Of these terms, "mainstreaming" has emerged as the most widely used and perhaps the least understood. Mainstreaming, defined in terms of the least restrictive alternative, is the process by which educators are delivering services to handicapped students. The process involves educators of the various disciplines, administrators, parents, employers, and human service agency personnel.

There are numerous definitions and examples of "mainstreaming" in the current literature. Clark (1975) provided the following definition: "Mainstreaming--defined as an educational programming option for handicapped youth provides support to the handicapped student and his(her) teacher(s) while he(she) pursues all or a majority of his(her) education within a regular school program with nonhandicapped students--is a challenging and viable option of educational service delivery for some handicapped children and youth" (p. 1). Clark viewed mainstreaming as a challenge to shift the

emphasis of providing direct support services to handicapped students to one of providing indirect support services to handicapped students. He cautioned the mainstreaming of educable retarded adolescents into programs which have gaps in curriculum development, instructional approaches, social training, prevocational assessment, guidance and counseling, work adjustment, and placement. Clark contended that vocational educators need support services for the handicapped and that few special educators are trained to give the needed technical assistance to vocational education teachers that they have given to academic teachers. Support personnel for vocational education teachers is therefore essential for mainstreaming handicapped students. Chaffin (1974) believed that the provision of supportive services by special education teachers was a critical need when mainstreaming handicapped students.

In a study of nearly 1000 vocational teachers in North Carolina, Hughes (1978) found several barriers to mainstreaming handicapped students. These barriers centered around:

1. Need for teacher inservice on developing occupational education programs
2. Reduction of class size
3. Lack of support personnel
4. Lack of variety of options in small schools
5. Lack of funds for equipment and materials

Many vocational educators are developing program components for mainstreaming students. Administrators of occupational education programs who believed in the concept of mainstreaming were found by Tarrier (1978) to have better programs. The belief that these persons can achieve and grow resulted in a better conceptualized, smoother running operation. Tarrier

found that a three-tier approach model for mainstreaming was the most successful. The three tiers were: (1) prevocational classes followed by (2) multi-occupational classes leading to (3) regular vocational classes. Much attention was devoted to the working relationship between occupational education and special education faculties. The prevocational training class appeared to be an important first step away from the highly supportive world of special education into the more independent world of work.

Learning centers were assessed by Schultz, Kohlmann, and Davisson (1978). Handicapped students were mainstreamed into three types of learning centers to see if the centers were effective in meeting the individual needs of students in home economics education. A variety of activities were provided in each learning center, such as, tapes, visuals, reading materials and hands-on objects. The authors found that cognitive growth appeared in both the handicapped and nonhandicapped students. Teacher attitudes toward the mainstreaming classes were positive and teachers were favorable toward the socialization which occurred as students worked toward a common goal. The acceptance of learning centers as a tool in mainstreaming handicapped students was also emphasized in the publication by the Texas State Learning Resource Center (1977). Phelps (1977) has also developed a four phase model system of evaluating activities which are important to mainstreaming special needs learners.

Vocational educators have been active in developing and evaluating mainstreaming of vocational education for the handicapped in California's secondary schools in order to develop guidelines, identify characteristics, and develop a manual on mainstreaming for California teachers.

Johnson and Reilly (1976) also conducted a study of the mainstreaming of vocational education for handicapped students in California. Specific recommendations were to place emphasis on:

1. Promoting community acceptance of handicapped students
2. Establishing a K-12 career education program
3. Establishing a continuing education and information program for the community
4. Strengthening the financial support
5. Scheduling time for the vocational education work supervisor to assist special education students
6. Developing additional tutoring services

Additional recommendations were made concerning inservice education, funding, and allocation priorities.

In other research conducted in California, Weisberger (1977), Smith (1977), Dillman and Maloney (1977), and Maloney and Weisberger (1977) developed a series of modules on "mainstreaming the handicapped in vocational education" for general understanding and planning. Disability areas covered by these modules include the orthopedically handicapped, the speech impaired, the visually handicapped, and the mentally retarded.

Suggestions were made by Kent (1977) for mainstreaming industrial education students in the shop class. Along the same lines, Feichtner and O'Brien (1976) made recommendations and developed a model for mainstreaming special needs students into regular classrooms. In 1976 Manzitti and others conducted an evaluation of mainstreaming in vocational programs in Michigan. They collected information on programs available, supportive service systems, types and number of handicapped students, and problems encountered in mainstreaming. Although special education staff and parents were supportive of mainstreaming, Manzitti et al. found that regular teachers and parents of normal students tended to be the least supportive.

Textbooks at Last

After several years of research and special projects, textbooks on mainstreaming for vocational educators are finally being produced. One of the first, Mainstreaming Guidebook for Vocational Educators, by Dahl, Appleby, and Lipe (1978), covers attitudes, elimination of barriers, assessment, program modification, and placement.

Another textbook by Phelps and Lutz (1977) on Career Exploration and Preparation for the Special Needs Learners should be helpful to vocational educators in planning, delivering, and individualizing vocational education for handicapped learners. An earlier book by Brolin (1976), Vocational Preparation of Retarded Citizens, provides information on techniques for vocational preparation and program evaluation.

Now that the terminology and concepts of mainstreaming are familiar, another concept similar to the least restrictive alternative emerges; namely, the "least restrictive environment."

Least Restrictive Environment

Even though the term mainstreaming has been used widely by educators for the past few years, it has different meanings. The authors of an awareness paper produced by the Council for Exceptional Children for the White House Conference on Handicapped Individuals (1977) suggested that the term mainstreaming be replaced by the concept of least restrictive environment when talking about delivery systems for educating handicapped students. The intent was that handicapped students, to the greatest appropriate extent, be educated with nonhandicapped students. Delivery systems based on the least restrictive environment concept offer educational placement on a continuum of services ranging from the least restrictive to the most restrictive environment. Individualization of educational plans is the key to educational placement.

Developing Least Restrictive Vocational Services for Handicapped Students

This section will describe some of the authors' experiences in delivering vocational services to teachers of handicapped students. The objective of the delivery system is to provide the least restrictive alternatives to handicapped students in vocational education. Three areas of input are provided to help classroom teachers and administrators in:

1. Preservice and inservice training;
2. Developing a prescription foundation; and
3. Preparing teachers to work with handicapped students.

Preservice and Inservice Training

Preservice and inservice training needs of vocational teachers are similar at this time. Changes in the daily instructional techniques are necessary. Appropriate revisions of existing courses are sometimes sufficient and at other times additional courses may be necessary.

Developing a Prescription Foundation

The first step in developing the least restrictive alternative is to develop an educational prescription for the handicapped student. A prescription is an educational plan to help a handicapped student to function based upon his/her capabilities. In order to develop an appropriate prescription, the teacher must consider a broad range of problems affecting the learning of the handicapped student.

The information needed to make a good prescription is divided into two basic categories: (1) those things which need to be known before the class starts or early in the class, and (2) those things which need to be considered after the class ends. The following profiles may yield important information on the student's background:

1. Academic profile for reading ability, math skills, and learning modes;
2. Independent living profile for ability to get along with peers, money management ability, safety and health situations, transportation situation, and independent living; and
3. Vocational profile for job skills, work experience, interests, and aptitudes.

Vocational teachers must also be looking ahead with the student to be post-class environment. What employment skills will be needed? Will the student need a special job or a redesigned job? In follow-up plans, will job supervision, supportive services or advanced training be required? Is the student headed toward a nonemployment status? If nonemployment is the case, what should be the next step? Should it be more education or some supportive service?

When some or all of the above information is considered, an individual prescription can be developed. As an educational plan is prescribed for the student, the help which the student needs outside the vocational classroom must be considered. Prevocational, supportive, and academic services may be necessary to supplement the vocational education plan. Teachers should ask for these services if they feel such services are needed. The prescription should include the tasks which are to be learned and the method for teaching the tasks or competencies. The prescription should include course modification plans. Although the prescription may be readily made, the course modification may require time and effort. Prescriptions calling for individualized instruction, materials development, and physical modification in the classroom may not be completed during the current semester or school year. This does not mean that handicapped students must remain outside

the regular classroom until the modifications are completed. Handicapped students are usually able to succeed in the regular classroom with modifications which are made before or during the early stages of the class. The process of building vocational education for the handicapped should lead to competitive employment, independence, and finally to the self-esteem which the handicapped justly deserve.

As previously stated, preparing the individual student education plan should involve consideration of the key elements in curriculum planning. Figure 1 provides a list of considerations to help teachers modify curriculum to meet student needs.

Figure 1

I. Administrative Policy

II. Student Assessment and Evaluation

- A. Needs assessment
- B. Testing of the student for mastery of course materials; contents, procedures
- C. Testing and certificates; types, criteria

III. Occupation Information

- A. Job goals; types, duties
- B. Skills needed to be hired
- C. Supervision available; type, extent
- D. Potential stress factors
- E. Physical demands
- F. Transportation factors

IV. Course Content

A. Quantity

B. Areas covered

C. Time constraints

D. Reading level

E. Math level (when applicable)

V. Teaching Procedures

A. For use with the entire class

B. For use with the handicapped student on an individual basis

VI. Identification, Selection, and Sequencing of Concepts and Skills to be Taught

A. Order of presentation

B. Rate of presentation

VII. Instructional Resources

A. Textbook, manual, or workbook

B. Teaching materials and aids for teacher use

C. Learning materials and aids for student use

VIII. Supportive Services

A. In-house

B. Outside agencies

C. Coordination mechanisms for these services

IX. Environmental Modifications

A. Buildings, laboratory, equipment, materials, classrooms

X. Emotional Climate of the Classroom

A. Feelings of nonhandicapped students

B. Feelings of handicapped students

C. Feelings of teacher

XI. Employer Contact and Job Placement

Preparing Teachers to Work With Handicapped Students

The inservice or preservice process consists of four parts:

1. Awareness: The experience of how important it can be to perceive the details of interpersonal interaction and respond appropriately
2. Reassurance: Soliciting input from the class concerning their successful experiences with handicapped learners
3. Problem definition: Identifying the learning characteristics often associated with the handicapped student, and examining the teaching process for necessary modifications
4. Problem resolution: Presenting strategies to solve the problems

Vocational teachers need a variety of resources and materials to help in the development of the least restrictive alternatives for their handicapped students. A method of providing materials has been developed by the staff at the Wisconsin Vocational Studies Center. Center staff conduct a continual search for materials on the vocational education of handicapped students. A bibliography of these materials is developed periodically and distributed to teachers within the state. Vocational teachers can then borrow the materials by mail through a free loan system. There are currently about 3500 items in the collection.

This type of service provides teachers with access to the latest materials and also provides the staff who collect and distribute the materials with an indication of teachers' needs. The staff then uses this information for planning and developing materials.

Recommendations

Vocational educators are in the forefront in providing the least restrictive alternative for handicapped students. Help from many areas outside the vocational classroom is needed to increase the effectiveness of daily instruc-

tion and a delivery system which will provide vocational teachers with the existing knowledge on the vocational education of handicapped students. Recommendations for providing and improving the delivery system follow.

Planning

State education agency decision makers, in cooperation with local education agency and university decision makers, should determine if they have made a philosophical commitment to allocating the resources needed to insure that handicapped students are successfully educated in the least restrictive alternative possible. The best educational strategies, methods, and materials available will prove useless unless decision makers value them enough to utilize them (Gold, 1973; Klein, 1978).

Before major changes are made, the responsibilities for the processes involved in educating handicapped students, the measurement of success, the organizational revision for effective professional cooperation, and the specific student problems must be determined. It is strongly urged that all who are expected to carry out the processes involved in educating handicapped students have the opportunity to contribute to the planning process (Kaufman et al., 1975; Gugerty, 1978).

In attempting to institute least restrictive alternatives for handicapped students in any vocational education program, interagency cooperation must be developed between vocational education, special education, and vocational rehabilitation. This cooperation should be formalized by specific planning sessions and written service delivery agreements to avoid service gaps, duplication of effort, inefficiency, and the likelihood that many people who are in need of and able to benefit from such services would "fall between the cracks" (Wrobel, 1972; Dean, 1978).

It is recommended that schools and other local human service agencies facilitate interagency and interprofessional communication by jointly developing data collection forms which use as many common terms and labels as possible.

It is recommended that state-level decision makers increase the adult and continuing vocational education programs which serve adult handicapped people who are employed, especially those who might be underemployed.

It is recommended that state education agency decision makers responsible for the establishment and enforcement of instructional certification requirements for vocational educators examine alternatives to the "add on" approach to the certification of new teachers to work with handicapped students. The "add on" approach can easily imply that handicapped people are really different from everyone else, and impossible to instruct without intensive specialized training. A suggested alternative to adding more required courses would be to incorporate instruction in needed competencies into existing courses required for certification (Sankovsky, 1977). Teacher-trainees learning to develop course objectives, lesson plans, and teaching materials should be focusing their attention on problems likely to arise from the entire spectrum of students who enroll in their courses.

It is recommended that universities increase their research and training efforts on the vocational and prevocational education needs of handicapped adults, in addition to handicapped children. It cannot be assumed that what works for handicapped youngsters is equally applicable to handicapped adults. It is also recommended that federal education officials, when issuing RFPs for contracts and grants, provide financial incentives which foster an increased emphasis on the vocational education and related problems of handicapped adults.

It is recommended that handicapped people, their parents, and other advocates ask for services and explore their rights on a local basis.

It is recommended that local education agencies adjust class size as needed when placing handicapped students into the regular classroom, because the development and implementation of modifications in vocational programs for handicapped persons may require extensive teacher time not only for preparation but also for implementation.

Staff Development

The development of a range of alternatives in vocational education programming will require a greater emphasis on the use of individualized education programs and specific teaching techniques. It is recommended that teacher trainers, both preservice and inservice, stress:

1. The principle that learning is often unrelated to the quality of performance after learning has occurred. In other words, one cannot assume that a slow learner, for instance, will be a poor performer. He or she might perform quite well once learning has occurred.
2. The effective use of vocational assessment systems, or the reports resulting from assessment, especially in situations where the assessment process did not distinguish between a person's learning rate or style and the quality of that person's performance once he or she has learned the task under consideration.
3. The difference between presentation of material to students in an educational setting and the establishment and implementation of systematic training sequences. Not all handicapped people are skilled at self-instruction. Merely presenting material in an unsystematic fashion on the assumption that "learners will get it" on their own can do a great disservice to students in the class.

It is recommended that state and local education agencies explore new methods of training their current vocational teachers to instruct handicapped students. It is also recommended that paraprofessionals and regular vocational teachers receive inservice training in working as teams to teach handicapped students (Dean, 1977). Appropriate inservice training should also be provided to other staff who will be expected to play important administrative and supportive roles in a mainstream setting. The current training received by administrators, guidance counselors, and psychologists, to mention but three possible professional support groups, frequently does not prepare them to work with handicapped students directly or to serve in a consulting or support capacity to regular educators who are or will be working directly with handicapped students (Keogh and Levitt, 1976).

It is recommended that the following procedures be used in designing inservice training: (1) actively involve participants, (2) build on their present levels of skill and knowledge, (3) individualize experiences to meet the needs of participants, (4) provide on-going learning experiences, and (5) implement practical rather than theoretical experiences. Provision should also be made for the appropriate orientation and training of new staff as they join the organization (Tindall and Gugerty, 1978).

University teacher educators of special education, vocational education, and vocational rehabilitation should instruct their students in skills and attitudes which facilitate the interprofessional cooperation and joint responsibility they are likely to need once they are employed. This preparation should require extensive academic interaction as exemplified in team teaching by university staff, creative and shared placements in practicum settings, exposure to a utilization of professional literature from all three areas, and an emphasis on problem solving (Weisenstein, 1977).

Curriculum

It is recommended that vocational educators adhere to the concept of teaching individual learners.

It is recommended that local education agencies allow time for and insist on the preparation of daily lesson plans. Teachers who expect to handle several students of different skill levels and who require different instructional strategies must plan carefully so that the students will receive systematic instruction suitable to their needs.

Instructional Materials

It is recommended that a regional curriculum network develop, collect, and disseminate instructional materials designed to help vocational educators serve handicapped students. Such a network should not assume a passive role of waiting for interested educators to discover and utilize available resources. Rather, the network should:

1. Actively recruit users by means of frequent fliers listing available materials
2. Increase the awareness of potential users by displaying samples from their collections at conventions of likely user groups, such as state vocational associations, state special education associations, and state rehabilitation associations
3. Provide consultation services upon request in order to translate relevant research results into usable forms for practitioners
4. Install a toll-free phone-in system so that users can discuss their problems with staff and receive relevant material on a free loan basis by return mail
5. Compile and distribute bibliographies of holdings to individual users and relevant human service and educational organizations

It is recommended that state education agencies devise and implement research utilization strategies which include translating significant research results on least restrictive alternatives into daily practice on the local level. Jacques and Bolton (1975) and Hamilton and Muthard (1975) present issues in, and models for, an aggressive approach to research utilization.

Local vocational training programs which have developed effective teaching materials and instructional techniques for use in programs designed to provide a variety of least restrictive alternatives for students having identified handicaps should make these materials and techniques available to other vocational training programs on at least a statewide level. This could be done on a cost recovery basis and coordinated by a state level vocational agency.

Conclusions

Vocational educators have progressed in the development of vocational programs to serve handicapped students. Research and development activities have occurred in all areas of the nation. In general, the solution is a return to teaching and meeting individual needs, whether a handicapped or nonhandicapped student is involved. The purpose of vocational education is to train people for paid or unpaid employment. Therefore, one of the criteria for evaluating vocational programs for handicapped people should be job placement of the students. Handicapped people, their parents, and others are evaluating vocational programs on this basis.

Improvement of vocational education for handicapped people is primarily the task of the vocational teachers who prepare daily instruction. However, vocational administrators, coordinators, academic and special educators, universities, state education agencies, human service agencies, employers, and others also have a part in the process. No one group can provide all of the services needed.

The most essential need is the revision of the professional development services provided by universities and state education agencies. The term "mainstreaming" is giving way to the concept of "lease restrictive alternative."

Inservice training for existing teachers remains critical. Although appropriate methods and techniques have been researched and have been found to be successful, the application of the knowledge to the general vocational public is lacking. There are not enough appropriately trained staff at the state education agency or university levels to meet the inservice needs of vocational teachers. The knowledge of how to teach handicapped students and what services to provide are available. Each state or area needs to develop an appropriate delivery system to provide for the inservice needs of existing teachers.

Some materials have been developed in nearly every disability and vocational area. In order for a handicapped student to be given the least restrictive alternative, these existing materials must be shared among vocational educators and new materials developed. Not all materials need to be modified. Teachers need to have the competencies to adopt, modify, or develop the appropriate materials as needed.

Increasing attention is being given to providing employment for handicapped persons. Cooperation of employers and vocational educators is apparent. This has been brought about partially by new legislation pertaining to the rights of handicapped persons to employment. Employment increases have been also brought about as a result of more handicapped people learning an employable skill and then seeking employment.

Many vocational educators and others have been extremely active in their efforts to provide vocational education to handicapped students. This

paper includes only a small portion of the research materials and program developments available to vocational educators charged with the development of the least restrictive alternative vocational education program for handicapped students.

Many researchers have proceeded under the concept of the least restrictive alternative without using the terminology. This is not to say that all vocational educators have provided a least restrictive alternative. However, many facets of a least restrictive alternative vocational program for handicapped students have been developed. Even though much research and development work remains undone, vocational educators do have a rich data bank of existing information to draw upon as they develop the least restrictive vocational education programs for their handicapped students. The successful development of the least restrictive alternative vocational programs for handicapped students will depend upon the ability of the vocational teacher to utilize the existing research and development results.

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The Importance of Advisory and Advocacy Input in the Least Restrictive Environment

Jane Ann Razeghi
American Coalition of Citizens with Disabilities

Why is it important to have advisory and advocacy input regarding the least restrictive environment? A brief consideration of the following facts brings the reality closer to home. In a country in which ten to twenty million mentally normal people have serious physical, sensory, or health related handicaps, it would not be expected that a market of millions of children and adults should be ignored. Industries do not cater to the needs of handicapped individuals in terms of everyday household and domestic appliances, inexpensive automobiles, or simple gadgets designed to assist the handicapped person gain control over his/her physical environment. Newspapers, magazines, journals, books, movies, television, theater, and advertisements rarely include handicapped individuals. Few doctors, lawyers, corporate executives, teachers, principals, or politicians are handicapped. The reality is:

- there are vast numbers of nursing homes and hospitals where disabled men, women, and children are left in solitude without much hope;
- work practices and hiring procedures systematically discriminate against disabled workers;
- a network of sheltered workshops exist where 200,000 adults earn an average of 83 cents an hour performing meaningless tasks;
- handicapped individuals are denied a work identity and not considered as independent producers;

- handicapped individuals are denied an independent identity as consumers of goods and services;
- a set of impressive laws prohibiting architectural and transportation barriers exist, but they are not being enforced; and
- there is a near blackout on news stories and documentaries about disabled people.

A perspective on the situation of handicapped individuals in American society emerges in the book, The Unexpected Minority, Handicapped Children in America (Gliedman & Roth 1980). The authors contend that many of the current efforts to "help" the handicapped are often ineffective and that such ineffectiveness underlies federal, state, and local policies that affect handicapped children as well as individual attitudes. They believe that, instead of concentrating on "curing" the child, the most important thing for the handicapped child is to move ahead with living a full life:

> The difficulties with the medical model, however, are overwhelming. To begin with, it is simply inapplicable to handicapped children. The essence of illnesses is that they can be cured, but what distinguishes handicapped children and adults is that they will continue to be as they are--of a different form from other people (Gliedman & Roth, 1980).

Without advocacy and input from successful disabled individuals, ineffective federal, state, and local policies will continue to be developed, thus failing to meet the unique needs of handicapped individuals.

The Least Restrictive Environment

How do the previously mentioned problems facing disabled individuals relate to the education of handicapped students in the least restrictive environment? According to P.L. 94-142, Sections 121a.550 through 121a.556, the least restrictive environment attempts to insure that:

- handicapped students are educated with nonhandicapped students in public or private schools, or care facilities to the maximum extent possible and appropriate to the needs of the students;
- special classes, separate schooling, or other removal of handicapped students from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes, with the use of supplementary aids and services, cannot be achieved satisfactorily.

It is the state education agency (SEA) which must insure that all requirements for the least restrictive environment are met. These regulations say that instead of arbitrarily isolating handicapped students, they should experience school in approximately the same manner in which they will eventually face life: working side-by-side with nonhandicapped individuals.

If handicapped children and adults continue to be different from other people, then the sooner "other people" get to know them and accept them as they are the better it will be for everyone. Rather than concentrating on a "cure" for the handicapping condition (if none exists), emphasis can be placed on the unique needs of these students. Successful disabled adults should be consulted about their needs as students and what needs they now have as adults. For special education and vocational education there are specific avenues available for such input.

Legislation and Regulations Which Address Advocacy and Public Involvement in Vocational Education Programs for the Handicapped

The following summaries of legislative and regulatory provisions are the basis for advisory and advocacy input into special education and vocational education.

Comprehensive Employment and Training Act (CETA) Final Regulations, April, 1979 P.L. 94-142

The CETA regulations require that each prime sponsor shall establish a planning council and that its members include representatives of handicapped individuals (p. 2005, Section 676.7). These same regulations also mandate State Employment and Training Councils which, among its designated representatives much include "organizations representative of handicapped individuals" (p. 20042, Section 677.36).

Section 121a.651 of the Education for All Handicapped Children regulations (P.L. 94-142) requires each state to establish a state advisory panel on the education of handicapped individuals. The panel is to be appointed by the governor and composed of persons involved in and concerned with the education of handicapped children. Membership should include at least one representative of each of the following groups:

1. Handicapped individuals
2. Teachers of handicapped students
3. Parents of handicapped students
4. State and local education officials
5. Special education program administrators

The composition and the number of members may be expanded at the discretion of the state. The panel's functions as they described in Section 121a.652 are:

1. Advise the SEA of handicapped students' unmet needs.
2. Publicly comment on the state annual program plan, the rules or regulations proposed by the state regarding the education of handicapped students, and the procedures for distribution of funds.

3. Assist the state in developing and reporting evaluations that may assist the commissioner to perform his/her responsibilities.

P.L. 94-482

The regulations for the Education Amendments of 1976--Title II, Vocational Education (P.L. 94-482) mandate national, state, and local advisory councils in Section 104.91-104.112. The state advisory council must include one or more individuals who have special knowledge, experience, or qualifications regarding educational needs of physically or mentally handicapped individuals. Each member serves a three-year term.

Functions of the state advisory council include:

1. Advising organizations responsible for administering policy matters on vocational education;
2. Identifying vocational and training needs, and assessing the extent to which vocational education, special education, vocational rehabilitation, and other agencies represent a consistent, integrated, and coordinated approach to meeting needs;
3. Conducting at least one public meeting each year to provide the public an opportunity to express views concerning the state's vocational education program;
4. Evaluating how well programs, services, and activities carried out during the year met program goals;
5. Reviewing the distribution of federal funds within the state according to the annual program plan and the accountability report; and
6. Recommending necessary changes in programs, services, and activities based on the results of its evaluation.

Local Vocational Councils. According to P.L. 94-482, Section 104.111, local advisory committees may be established for program areas, schools, the

community, or the region in which the eligible recipient is located. Local vocational advisory committees advise vocational education administrators of current job needs, the relevance of programs being offered to meet these needs, and provide assistance in the placement of program completers.

Committee members are selected from the general public and include representatives from business, industry, and labor. Unfortunately, the regulations do not designate a representative from special education or the handicapped population. This seems to further demonstrate the need to provide materials and training to local councils regarding vocational education for handicapped students.

Implications

The state advisory panels required by P.L. 94-142 and P.L. 94-482 have similar missions. Both types of advisory panels include functions which relate to:

1. Advising program administrators on students' needs,
2. Advising program administrators on policies and programs being developed to meet students' needs, and
3. Assisting in developing and reporting evaluations conducted to determine the effectiveness of programs, services, and activities in meeting program goals.

Given the similarity of missions and commonality of goals, the state advisory councils should coordinate their efforts to ensure total coverage of all educational programs for the handicapped (Halloran, Foley, Razeghi, Hull, 1978).

Serious consideration should be given to including handicapped individuals on the state and local advisory councils. Their participation by these individuals would give the councils valuable input and advice for meeting the needs of handicapped individuals.

The Role of Advocates On Advisory Committees in Implementing the Least Restrictive Environment

Advisory committees are primary vehicles through which disabled adults and/or advocates can provide necessary input to effect positive change in the least restrictive environment for handicapped youth. Their efforts can bring attention to the need for appropriate vocational programming and program planning for handicapped students. They can assess the state's present level of programming and provide advice regarding areas where further program development is necessary.

The following areas are ones for which advocates can provide effective input as related to the least restrictive environment:

1. Definition of "special education" as "vocational education". P.L. 94-142 defines special education as vocational education (Razeghi and Davis, 1970) if:

> ...it consists of specially designed instruction at no cost to the parents to meet the unique needs of a handicapped child. (121a.14)

In P.L. 94-142, vocational education is defined as:

> ...organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career requiring other than a baccalaureate or advanced degree.

This definition of vocational education was taken from the Vocational Education Act of 1963 and amended by P.L. 94-142. Thus, by definition, special education includes vocational education for handicapped students and vocational education is defined as part of special education.

2. Individual Education Program (IEP) mandates. Advocates could provide input regarding the individual education program (IEP)

mandates. While P.L. 94-142 requires an IEP for all handicapped students receiving special education and/or related services, P.L. 94-482 (vocational education regulations) requires that each handicapped student's program be planned and coordinated as part of the student's IEP required by P.L. 94-142. The state education agency is to ensure that funds for vocational programs for the handicapped parallel the state plan submitted under the Education for All Handicapped Children Act, P.L. 94-142 (Section 104.182(f)).

The student's IEP is to contain, among other things,

> ...the extent to which the child will be able to participate in regular education programs; the projected dates for initiation of services and the anticipated duration of the services...(121a.346)

This indicates that any participation in regular vocational education should also be included in the IEP.

Individuals designated in P.L. 94-142 as persons to participate in developing the IEP include: "...other individuals at the discretion of the parent or agency." Such relevant "others" could include vocational educators.

3. Program options. According to P.L. 94-142, each public agency is to take steps to ensure that its handicapped students have available to them the variety of educational programs and services available to nonhandicapped students. This includes: "...art, music, consumer and homemaking education, and vocational education." (121a.305)

The regulations indicate that the above list is by no means exhaustive and "...could include any program or activity in which handicapped students participate." (121a.305)

4. Non-academic Services: Each school district must take steps, according to P.L. 94-142, to provide nonacademic and extracurricular services and activities which provide handicapped students an equal opportunity to participate in such services and activities. The regulations define nonacademic and extracurricular services and activities as including the following:

> ...counseling services, athletics, transportation, health services, recreational activities, special interest groups or clubs sponsored by the public agency, referrals to agencies which provide assistance to handicapped persons, and employment of students, including both employment by the public agency and assistance in making outside employment available. (121a.306)

Physical education services, specially designed if necessary, must be made available to every handicapped child receiving a free appropriate public education (P.L. 94-142, 121a.307).

5. Role Models. One of the most important aspects of the role of an advisory council member and/or advocate is to function as a role model for both handicapped and nonhandicapped individuals on the committee, in the schools, and in the community. They can offer resources, services, advice, assistance and play a major role as liaison among the students, school, and community. As liaisons, they can perform many public relations functions, such as

- developing and sponsoring a comprehensive community public relations program;
- identifying and coordinating various community resources for the instructional program;
- coordinating community needs, manpower supply and demand, and conducting follow-up surveys to collect relevant and supportive information for decision makers;
- serving as a resource person in classrooms;

- facilitating communication between career and vocational educators and other school personnel regarding the career needs of disabled persons; and
- facilitating the development of individual programs for disabled students in career and vocational classes.

The foregoing are just a few of the areas in which advisory committee members and/or advocates can be communicating while working in advisory capacities. This is by no means an exhaustive list.

Advocate Training for the LRE

At the present time, there is almost no provision for training advisory representatives and/or advocates regarding the least restrictive environment in vocational education. Major consumer organizations often provide "advocacy training" but it is rarely focused on educational advocacy. The American Coalition of Citizens with Disabilities (ACCD) trained successfully employed disabled adults to serve as volunteer consultants in both career education and vocational education in order to assist parents, educators, and handicapped students. The project was funded by the Office of Special Education, United States Department of Education and the training included the least restrictive environment as it relates to special, career, and vocational education for handicapped students.

Other ACCD member organizations such as the National Association of Retarded Citizens, through its affiliates, offers training in citizen advocacy, but usually this is not focused on educational advocacy. An annotated bibliography Citizen Advocacy Resources has been produced at the Research and Training Center in Mental Retardation at Texas Tech University. It brings together literature, training materials, and other resources relevant to citizen advocacy for developmentally disabled persons. However, like other such advocacy guides, it does not cover the least restrictive environment or advice for advisory council members.

Changes Needed for More Effective Advocacy, Consumer, and Public Involvement

More important than making changes in the legislation and/or regulations is to be aware of the importance of including input from appropriate handicapped representatives and/or their designated advocates. Too often the needs of handicapped individuals are planned "for" rather than "with" appropriate disabled persons and/or advocates. It would also be more effective if these individuals were kept up-to-date regarding the latest developments about:

- vocational education for handicapped students;
- recent laws and policies affecting vocational education for handicapped students;
- linkages with other national, state, and local policy influencing organizations;
- interagency cooperation and inter/intra agency roles and responsibilities;
- awareness of state and local programs which have been successful in including handicapped students in vocational education; and
- awareness of national, state, and local resources and materials which can assist in implementing comprehensive vocational education for handicapped students.

Increased awareness of advisory and advocacy input at the national, state, and local levels on behalf of the least restrictive environment in vocational education will eventually provide greater visibility for the capabilities of many disabled individuals. Once administrators, educators, parents, and members of the community, at large, believe that the efforts they make are potentially productive and that there are, in fact, career oppor-

tunities for even the most severely disabled adult, then they will be more willing to listen to the concerns of handicapped representatives and advocates. Disabilities can be overcome to enable individuals to achieve to the limits of their capabilities within whatever the least restrictive environment may be for them.

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Needs Assessment and the Least Restrictive Environment in Vocational Education

James P. Greenan
University of Illinois at Urbana-Champaign

A current thrust at all levels of education is the concern for meeting the educational needs of handicapped students. This concern is particularly evident in vocational education. Traditionally, handicapped students have not participated in regular vocational programs. The Olympus Corporation (1974) reported that of the handicapped students enrolled in vocational education, 70 percent were placed in special classes. Currently, increasing numbers of handicapped students are being placed in regular vocational programs.

Numerous litigations have established the right of equal educational opportunities for all handicapped students. The basic principle of racial equal opportunity for an education presented in Brown vs. Board of Education, 347 US 483, 1954, was cited in later cases on behalf of handicapped children who were being denied the right to an appropriate education. The Brown court rules that "separate but equal" had no place in the educational system. The Mills vs. Board of Education of the District of Columbia, 348 F Supp. 866, 1972, court ruled that "no child ...shall be excluded from a regular public school assignment by a rule, policy, or practice...". Additionally, the Pennsylvania Association for Retarded Citizens (PARC) vs. Commonwealth of Pennsylvania, 334 F. Supp. 866, 1977, case decided that "...placement in a regular public school class is preferable to a placement in a special public school class ...". The Brown, Mills, and PARC decisions laid the foundation for present federal legislation and initiatives.

Several significant pieces of federal legislation and initiatives have been enacted to assure that handicapped students are not restricted and do receive appropriate educational programs. The major goal of P.L. 94-142 (The Education for All Handicapped Children Act of 1975) is to guarantee equal educational opportunity for all handicapped children. According to the law, every state is responsible for developing a comprehensive plan that provides a free and appropriate public education for all handicapped children. A major legislative provision in the law is the Least Restrictive Environment (LRE). The state plans must include provisions for placement decisions which are most appropriate or "least restrictive" for individual students. Relative to LRE, the law specifically states, "... procedures to assure that, to the maximum extent appropriate, handicapped children, in public or private institutions or other care facilities, are educated with children who are not handicapped, and that special classes, separate schooling, or other removal of handicapped children from the regular environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (Sec. 612(5) (B))."

The LRE concept has been synonymous with mainstreaming. Mainstreaming refers to the unconditional placement of handicapped students into regular education programs. LRE refers to the most appropriate educational alternative placement for students. Furthermore, the LRE provision mandates the establishment of a continuum of educational environments within each local educational agency (LEA) in order to provide appropriate placements for all handicapped students.

Other federal legislation directly reinforces the LRE provision of P.L. 94-142. P.L. 94-482 (The Education Amendments of 1976, Title II--Vocation-

al Education) requires that, to the maximum extent possible, students are to be served in regular vocational classes. P.L. 93-112 (The Vocational Rehabilitation Act of 1973, Section 504) provides that "no otherwise qualified handicapped individual ... shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." These federal initiatives have caused vocational personnel to evaluate the accessibility and appropriateness of their programs for handicapped students.

From the enactment of P.L. 94-142 to the present, much consideration has been given to how handicapped students can be placed into least restrictive environments in vocational education programs. The United States Office of Education, Burea of Occupational and Adult Education, Division of Vocational and Technical Education (1979) suggested that educational agencies should consider the following questions when developing procedures to ensure that handicapped students are placed in the "least restrictive vocational education environment."

- Can the student participate successfully in a regular vocational program with appropriate special educational assistance?
- What is the nature and severity of the handicap that prohibits the student's participation in regular vocational education with special educational assistance?
- Is the handicapped student unable to participate in the regular vocational education program because facilities are inaccessible?
- Are alternative placements available for the provision of vocational education for handicapped students who cannot participate in regular vocational education programs?

- Are the facilities, services, and activities being provided handicapped students receiving vocational education in separate programs comparable to those provided in programs for nonhandicapped students?

Vocational personnel are frequently untrained in working with these "new" students. Nevertheless, vocational teachers, counselors, and administrators must work with handicapped students in the regular class setting on a daily basis. In order to develop LRE implementation plans, states have assessed the needs of vocational personnel in the implementation process. The needs assessments, as they specifically pertain to the LRE, are the primary focus of this paper. A secondary focus will be to examine (1) the extent to which LRE needs assessment data are incorporated into statewide evaluation and information systems, and (2) the interagency linkages which are necessary for comprehensively assessing vocational education needs relative to LRE.

Needs Assessment

Because vocational teachers generally have autonomy over the curriculum, instructional methods, facilities, materials, and equipment used in their programs, they are generally viewed as being in the best position to provide for the least restrictive environments or alternatives for their students. Providing the LRE in vocational education may entail modifying teaching methods, materials, and or equipment to be consistent with a student's IEP. The appropriate learning environment is intended to enable students to succeed in their vocational programs.

The emphasis of statewide needs assessment relative to LRE in vocational education has been on inservice teacher education. The LRE provision is essential to the overall education of handicapped students. Therefore,

states have included vocational educaion LRE needs assessment with other teacher education needs relative to the education of handicapped students.

The National Center for Research in Vocational Education at the Ohio State University developed a needs assessment instrument which listed the performance requirements that vocational special needs teachers should possess (Cotrell, Bennet, Cameron, Chase, Molner & Wilson, 1971). Teachers were asked to rate their proficiencies on selected tasks. Three of the items listed pertained to LRE and included: (1) "Plan and write a unit of instruction for including special needs students;" (2) "Write a lesson plan for including special needs students;" and (3) "Place students in appropriate training stations." Four additional items relative to LRE were contained in the instrument. They were concerned with designing lessons while considering individual differences, recognizing special instructional problems, using information to plan remediation programs, and employing student tutoring programs.

The State of Vermont developed an inservice and preservice needs assessment survey that can be used to determine how proficient vocational teachers are at 200 "essential instructional behaviors" (Hull & Halloran, 1974). The behaviors were grouped into nine major areas: designing instruction, directing purposeful instruction, developing instructional materials, evaluating instruction, providing student guidance, conducting research, managing the classroom, commitment to the education profession, and monitoring community relations. Twelve of the 200 competencies pertained to providing the LRE for special needs students. Some of these competencies included:

- "Given a specific instructional objective and relevant entering pupil behaviors, develop appropriate learning materials;"

- "Modify a lesson based on information form a pre-test;"
- "Arrange laboratory work areas and storage space to facilitate student work performance;" and
- "Describe remedial techniques that will reinforce lesson content for students who need additional help."

Four additional items in the survey were indirectly related to LRE.

The State of Virginia used a survey to identify the competencies which are important for vocational and technical education personnel to possess for teaching handicapped and disadvantaged students (Sheppard, 1975). One hundred and seven vocational-technical teachers, administrators, and counselors were surveyed. Sixteen competencies were developed. The respondents were asked to rank the competencies in terms of how important they were for successful performance in their position. One competency pertained to LRE: "Use guidance and counseling practices appropriate for working with disadvantaged and handicapped students." The results of this survey indicated what should be assessed rather than describing what are or what should be the current levels of proficiency.

Colorado State University (Altfest, 1975) identified several tasks that vocational teachers should be able to perform in order to teach special needs students. There were three tasks on the list that were concerned with LRE. These tasks included:

- "How to get brailled, thermoformed, or large print versions made of regular class materials;"
- "How to make simplified versions of regular class materials;" and
- "How to develop appropriate teaching methods for characteristics and attitudes of students which effect learning."

The tasks were generally concerned with modifying instructional materials and methods.

Albright, Nichols, and Pinchak (1975) developed a list of 112 competencies which were considered necessary for vocational teachers to teach special needs students. The competencies were subdivided into six major program areas including program management, curriculum, classroom management, coordination, remediation, and counseling. The survey enabled teachers to rate their proficiencies on each of the listed tasks. There were seven items that were indirectly related to LRE in the areas of evaluation, program costs, remediation, and tutoring.

Kingsbury (1976) developed a list of competencies that were considered necessary for vocational special needs teacher coordinators. The survey instructed teacher coordinators to rank the importance of all items in terms of being essential, nice to know, or not needed. The survey contained 128 items subdivided into eight program areas that included program planning, curriculum planning, method of instruction, evaluation, guidance, human relations, management of learning and behavior, and coordination. Ten competencies pertained to LRE and included:

- "Select and/or develop appropriate assessment instruments;"
- "Provide alternative learning routes for pupils;"
- "Assess his/her impact on pupils and modify that impact by modifying teaching styles;" and
- "Work with professional consultants in developing programs for individual students."

Four other competencies indirectly related to LRE dealt with translating characteristics of handicaps, identifying educational and behavioral goals by students handicapping conditions, translating student limitations into instructional limitations, and identifying advanced activities for individual students.

Phelps (1976) identified 24 tasks that vocational teachers should be able to perform to teach special needs students. The needs assessment instrument contained two questions which sought to determine the importance of each listed task and the extent to which teachers needed to know more about the task. Each question contained a five-point scale. If a teacher's cumulative score was seven or greater on any task, he or she was referred to specific modules and inservice experiences. The modules included learner identification and analysis, cooperative instructional arrangements, instructional resources, cluster and content analysis, instructional planning, instructional implementation, and evaluation of learner progress. Of the 24 performance tasks, 12 were concerned with providing the LRE for special needs students. Specifically, some of these tasks included:

- "Use a variety of performance measures to assess a learner's progress;"
- "Plan a sequence of modules or units of instruction according to the learner's needs;"
- "Manage and modify when necessary the tools, equipment, facilities, materials, and conditions in the learning environment;" and
- "Identify instructional activities appropriate for special needs learners."

Eight other tasks also related to LRE.

The State of Arkansas included LRE in its assessment of competencies needed by vocational teachers of special needs students (Yung, Smith, Jennings, & Haynie, 1978). The survey attempted to determine the importance of each task and the confidence of teachers in performing the task. Of the 42 tasks listed, 12 were LRE related. Some of these included:

- "Determine types of materials, methods and learning situations which are most appropriate for special needs students;"
- "Develop instructional materials for special needs students;"
- "Identify instructional activities appropriate for special needs students;"
- "Modify instructional materials and techniques to facilitate special needs students to consider alternative programs;" and
- "Individualize course of study and build individualized education programs (IEPs) to fit special needs students."

Six additional needs assessment items relating to LRE were also included in the survey. These items pertained to support services and personnel, individualized instruction, cooperative services, attitudes of regular students, and program evaluation.

A needs assessment survey to determine the problems that prevent special needs students from succeeding in their vocational classes was developed for the State of Iowa (Greenwood & Morley, 1978). Teachers responded to a list of 58 items which were subdivided into the following areas; cooperative work-experience programs, characteristics of special needs students, vocational curriculum, facilities, instructional equipment, instructional materials, support services, teacher characteristics, administrative and supervisory persons characteristics, and community. Nine items pertained to LRE. These items included:

- "Curriculum is not flexible enough to account for individual student differences;"
- "Facilities are not accessible to the physically handicapped;"
- "Materials are not appropriate for students' interests, needs, and/or abilities,"

- "Cannot individualize with present materials;"
- "Services for diagnosis of students' handicaps are not available;"
- "I am not convinced that special needs students should be integrated into regular classes"
- "Philosophy of Administration is against serving special needs students in regular classes,"
- "Administration does not support changes in program," and
- "Community philosophy is not in favor of integrating special needs students into regular classes."

The Iowa approach was concerned with identifying existing LRE-related problems rather than establishing competencies by which personnel could assess themselves.

Nebraska identified seven cluster areas for vocational teacher competencies. These areas included: program planning, curriculum development, methods of instruction, evaluation, guidance, human relations, and management of learning and behavior. Shaw (1978) then developed a list of 51 competencies for a special vocational needs teacher endorsement in Nebraska which fell within these areas. The competency list was developed into a needs assessment survey for state-wide teacher training programs. Twenty of the competencies listed were concerned with LRE. Some of the items included:

- "Assist in designing programs for students with special needs;"
- "Aid in implementing programs for students with special needs;"
- "Develop goals and objectives for special vocational needs programs;" and
- "Formulate behavioral objectives for a special vocational needs curriculum."

The remaining LRE items were distributed among the various competency areas.

Maryland has developed a survey to assess the "special needs of its vocational instructors" (Maryland State Department of Education, 1979). The survey contains 35 items encompassing numerous kinds of "competencies/ knowledges/ skills." The survey sought to determine the importance of each listed competency and whether or not the respondent would like more information or training. Seven competencies pertaining to LRE were listed. Some of these included:

- "Develop teaching strategies for handicapped students,"
- "Finding appropriate teaching materials for handicapped students," and
- "Maintaining safety standards with handicapped students."

The other competencies dealt with modifying materials and equipment. Three additional items were relating to providing the LRE for handicapped students.

Minnesota developed a needs assessment survey which was designed to determine the competencies needed by vocational teachers rather than vocational supervisors/administrators (University of Minnesota, 1979). There were 143 randomly listed competencies. Forty-nine competencies were concerned with LRE. Some of these competencies included:

- "Operate a system for monitoring student progess and achievement and making changes in teaching strategies and delivery systems when necessary;"
- "Prepare special needs student socially and emotionally for introduction into a mainstreamed program;"
- "Assess a plan to obtain needed inservice training to successfully mainstream special needs students;" and

- "Determine what services the mainstreaming program can provide the community."

The remaining LRE related items referred to instructional methods, support services, guidance and counseling, classroom social environment, instructional materials, modifying the classroom environment, modifying the curriculum, professional development of teachers, and the community.

The review of literature concerning needs assessment in vocational education reveals that, to some extent, states have assessed their needs relative to LRE. These assessments have addressed instructional planning, instructional materials, instructional methodology, curriculum, facilities, guidance and counseling, support services, attitudes, community, coordination, and evaluation. The emphasis of needs assessment, pertaining to LRE, has been on curriculum modification, instructional materials, teaching methodology, facilities, equipment, tools and materials. However, none of the surveys specifically mention "least restrictive environment or alternative." The most frequently used terms to describe the LRE were "appropriate" or "modify." Mainstreaming was used in some cases, presumably to describe the LRE for individual students. However, the terms mainstreaming and LRE should not be confused. They have different meanings as was previously discussed.

Statewide Evaluation and Information Systems

Vocational education LRE information has not been formally incorporated into statewide evaluation and information systems. Some states (Arkansas, Connecticut, Georgia, Iowa, Louisiana, Maine, Maryland, Massachusetts, Missouri, North Carolina, Oklahoma, Pennsylvania, South Carolina, and Tennessee) have attempted to evaluate and monitor their compliance with legislative provisions (i.e., IEP) (Foley & Holland, 1978; Iowa Individualized

Education Program Procedures, 1978). However, vocational education is generally not involved. Virtually no monitoring or evaluation has occurred concerning the LRE provision as it relates to vocational education. Aloia (1979) has suggested a statewide evaluation policy pertaining to LRE compliance. He states that the State Education Association (SEA) should document all "hearings and disputes" that occur annually. If the quantity and type of complaints continue to occur, it could be an indication that the SEA and/or LEA efforts are inadequate in providing vocational education services to handicapped students in the least restrictive environment.

Many states lack formal networks or systems to collect and disseminate needs assessment information. When data is collected, it is usually done for reporting and "accountability" purposes only. Often very little is done with the data. Commonly, the data relates the current state of the art and does not describe or suggest what should be occurring. Therefore, suggestions for change or improvements are frequently nonexistent.

Continuous evaluation and monitoring of all vocational programs should be established to verify compliance with LRE. The evaluation and monitoring should be coordinated with statewide information systems and program evaluation. Conditions and criteria for compliance should be developed based on identified needs. The frequency and extent of evaluation should also be identified. A formal structure of data collection and information dissemination is an initial step in conducting comprehensive statewide needs assessment relative to LRE.

Interagency Linkages

Interagency coordination and planning has been identified as a major policy-related problem in several studies (Davis & Ward, 1978; Howard, 1979; Phelps & Thornton, 1979). The central problem is that in many states

neither formal nor informal interagency agreements exist in terms of coordination and articulation of vocational instruction and services. The lack of interagency coordination and planning among vocational education, special education, vocational rehabilitation, and other private and public agencies has frequently caused inefficiency and duplication of services for handicapped vocational students. The lack of interagency coordination and planning within the states has inhibited comprehensive needs assessment activities pertaining to LRE.

Interagency cooperation and agreements are essential for providing comprehensive needs assesssments concerning LRE. Vocational education, special education, and vocational rehabilitation must coordinate their activities through specific planning and formal written agreements. (Tindall & Gugerty, 1979). The agencies must identify their common goals and describe strategies to initiate cooperative efforts. To this end, they must agree on definitions, terms, labels, data collection forms, and referral procedures. The agencies need to jointly determine what services each can offer, describe their extent of involvement, and identify inefficiencies and duplication of efforts. The agencies must also identify "contact" people who can serve as interagency coordinators. Finally, all agencies involved must communicate their formal agreements. This kind of interagency cooperation will avoid the probability that many handicapped students who need and could benefit from vocational instruction and services "fall between the cracks" (Wrobel, 1972; Dean, 1978). After similar kinds of interagency cooperation and agreements become a reality, comprehensive needs assessments concerning LRE can occur.

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some states. Interagency coordination and planning among such agencies as vocational education, special education, and vocational rehabilitation is essential for conducting comprehensive needs assessments concerning LRE. These agencies should identify and agree upon common goals, definitions, services, and activities. Formal agreements must then be communicated to provide efficient services to handicapped students. Formal interagency cooperation and agreements must be initiated so that comprehensive needs assessments concerning LRE can occur.

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Summary

Statewide needs assessments concerning LRE have been conducted to provide information for vocational teacher preservice and inservice education. The assessments have been specifically concerned with areas such as curriculum modification, instructional materials, teaching methodology, facilities, equipment, tools, and materials. However, the terms "least restrictive environment and alternative" have not generally been included in the needs assessments. The terms "modify" and "appropriate" are commonly used to describe the LRE. Future statewide needs assessments need to build upon the existing studies and become more comprehensive according to the legislation and initiatives which provide for LRE. Vocational personnel should then examine all programs and services to make them accessible and appropriate for individual handicapped students.

Vocational education LRE information has virtually not been formally incorporated into statewide evaluation and information systems. Furthermore, very little or no monitoring or evaluation has occurred concerning the LRE provision as it relates to vocational education. Although many states have conducted needs assessments, several states do not have formal systems to collect and disseminate needs assessment information. Statewide evaluation of all vocational programs should be done to ensure compliance with LRE. LRE evaluation should be coordinated with information systems and program evaluation. An organized system of data collection and information dissemination will enable states to conduct comprehensive needs assessments relative to LRE.

Interagency coordination and planning continues to be a major problem between and among agencies that provide vocational services to handicapped students. Apparently neither formal nor informal agreements exist within

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EPILOGUE

The fundamental theme that is woven throughout all of these policy papers is concern with ensuring the most appropriate learning environment for handicapped learners to receive their education. As late as the 1960s this environment was thought by social service providers to be best if it was segregated and sheltered. It was assume that the most effective and efficient teaching and learning placements were highly individualized learning environments that involved limited interaction to handicapped peers.

The introduction of the powerful concept of "normalization" has changed contemporary thinking about the propriety of this line of reasoning. We now now that handicapped learners along the entire range of severity of handicapping conditions can learn far more than previously anticipated. We know that optimal learning and the most efficient and cost effective teaching occurs in environments where handicapped students can interact with non-handicapped peers. We know that social acceptance and integration of handicapped individuals into the social mainstream--by the school, workplace, or community--is best achieved by minimizing segregated treatment.

The least restrictive environment provision of P.L. 94-142 was an attempt by law makers to translate the broad normalization principle into practice in the public education community. As the various authors of the policy papers in this volume have suggested, this has had implications for a wide variety of practices in education, ranging from personnel development and educational needs assessment to instructional strategies and child advocacy policymaking.

There can be little doubt that vocational educators will be increasingly required to demonstrate teaching competence for handicapped students who

have been placed in less and less restrictive environments. The authors contributing to this volume have treated this as a fait accompli, and have formulated their policy recommendations around this assumption. It is our sincere hope that all policymakers whose efforts impact upon the provision of vocational education for handicapped individuals will operate under a similar set of assumptions.